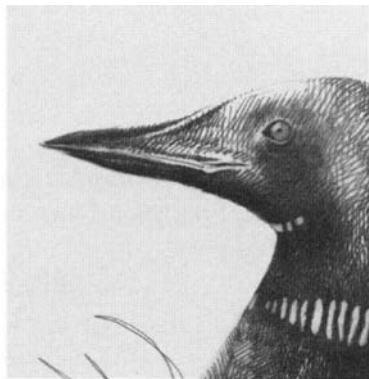


ENVIRONMENTAL ASSESSMENT
Replacement of Docks at Tobin Harbor



ISLE ROYALE

NATIONAL PARK • MICHIGAN

Department of Interior
National Park Service
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SUMMARY

Isle Royale National Park proposes the replacement of the four fixed docks at Tobin Harbor. The current docks were constructed in 1958 and, although routine maintenance and temporary repairs are performed annually, the docks need to be completely rebuilt to insure the safety of visitors and park personnel. The new docks will comply with the Americans with Disabilities Act Accessibility Guidelines *2002 Final Rule* for boating facilities.

This Environmental Assessment (EA) describes a no action and five action alternatives and analyzes the environmental impacts of each. The National Park Service prefers Alternative B.

Please address comments on this document to:

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INTRODUCTION

Isle Royale National Park is located in Lake Superior 50 miles north of Michigan's Keweenaw Peninsula, 13 miles south of Ontario, Canada, and 18 miles east of the Minnesota shore. It is an archipelago of one large island, 45 miles long and 9 miles wide, and more than 200 small islands comprising a total land area of 133,782 acres. The park's boundary extends 4.5 miles into Lake Superior, encompassing 438,008 acres of water, bringing the park's total area to 571,790 acres.

An Act of Congress established Isle Royale National Park on March 3, 1931 (46 Stat. 1514). In 1976, legislation (Public Law 94-567) was passed designating Isle Royale National Park as a Wilderness area. To date, 99% of the land area of the park has been established as Wilderness. The Park's General Management Plan (1998) identifies the following purpose statements for Isle Royale, which reaffirm the reasons it was set aside as a National Park. They are based on park legislation and legislative history, special designations, and NPS policies.

- Preserve and protect the park's wilderness character for use and enjoyment by present and future generations;
- Preserve and protect the park's cultural and natural resources and ecological processes;
- Provide opportunities for recreational uses and experiences that are compatible with the preservation of the park's wilderness character and park resources;
- Provide park-related educational and interpretive opportunities for the public;
- Provide opportunities for scientific study of ecosystem components and processes, including human influences and use, and share the findings with the public.

The summer park headquarters is at Mott Island, where there are employee offices, housing, and maintenance facilities. There is one overnight lodging facility located at Rock Harbor and visitor marinas selling fuel and supplies are located at Rock Harbor and Windigo. Isle Royale is primarily a wilderness and maritime park. There are no roads at Isle Royale and cars, motorcycles, bicycles and horses are not allowed on the island. Travel at Isle Royale is by boat or on foot. Park service personnel and visitors use boats to carry supplies or to travel around the island more quickly. For this reason, docks are some of the most critical facilities required for the operation and enjoyment of the park.

The docks at Tobin Harbor are located in the Rock Harbor area, which is the developed zone on the east end of the main island. Tobin Harbor is northwest of the Rock Harbor visitor center across a narrow peninsula. Tobin Harbor is a sheltered, peaceful compliment to the larger crowds found near the Rock Harbor marina. Many visitors prefer to dock their boats at Tobin Harbor and enjoy the wildlife and tranquil setting. The Tobin Harbor docks are also used by park service personnel and the floating dock accommodates seaplanes arriving at the east end of the park.

PURPOSE AND NEED FOR ACTION

Purpose for Replacing the Tobin Harbor Docks

The purpose of replacing the Tobin Harbor docks is to meet the following objectives:

- i.** Improved safety and continued access at docks for visitors and employees
- ii.** Accessibility of the docks for mobility-impaired visitors
- iii.** Protection of natural and cultural resources
- iv.** Curtailment of damage to boats docked at Tobin Harbor
- v.** Preservation of the character of the adjacent Tobin Harbor Historic District

The primary purpose of the Tobin Harbor Docks Replacement Project is to improve safety and assure continued access to the docks for visitors and employees. Under all of the action alternatives the docks will be replaced with new docks that have level decking and even sideboards improving the safety of visitors and staff. Current docks are unsafe and may soon have to be closed to visitors as well as park staff. One purpose for replacing the docks is to preserve the access to docks in Tobin Harbor that visitors have enjoyed for over 45 years.

Another important objective of the Tobin Harbor Docks replacement is to bring the docks into compliance with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) for boating facilities finalized in 2002. It is important that docks meet accessibility standards because, according to the report *Accessing Isle Royale* (1994), “water access by boat, canoe or sea kayak would probably be the most functional way to access the park for a person with a disability.” Isle Royale’s miles of coastline and pristine Lake Superior waters are accessible to anyone by boat, provided the docks are accessible as well. Land access is more limited; while wheelchairs are allowed at the park for personal use, most of the trails are too narrow, steep and rocky for wheelchair accessibility.

The Tobin Harbor docks are an element of the Rock Harbor area that is not currently Americans with Disabilities Act (ADA) accessible from water or land. The terrain between the Rock Harbor marina and the Tobin Harbor docks is steep and uneven. The only practical way for mobility-impaired individuals to visit Tobin Harbor is by boat. With the current condition of the Tobin Harbor docks, mobility-impaired individuals visiting the docks would be confined to their boats. All action alternatives would bring the docks up to ADAAG standards, so that a person with limited mobility could sleep on his/her boat in Tobin Harbor and use the docks for wildlife viewing and fishing.

A third purpose is protection of natural and cultural resources. Park staff frequently use the Tobin Harbor docks to access natural and cultural resources for protection, research and maintenance. Staff using the docks for resource protection includes law enforcement rangers, natural resource specialists, cultural resource specialists, interpretive rangers and maintenance staff. Examples of resources protected include the Common Loon and coaster brook trout populations, the historic buildings of the Tobin Harbor Historic District and rare plants located in the area.

A fourth purpose of the Tobin Harbor Docks replacement is curtailment of damage to boats docked at Tobin Harbor. The damage to the dock supports has resulted in a loss of strength and

stability to the docks as well as warping of decking and sideboards. The result is docks that have the potential to damage boats especially in bad weather. The new docks will have even sideboards and level decking, and new supports and cleats, which will curtail damage to boats docked at Tobin Harbor.

A final purpose for the replacement of the Tobin Harbor Docks is the preservation of the character of the adjacent Tobin Harbor Historic District. The cabins comprising the summer cottage community of Tobin Harbor are all eligible for listing in the National Register of Historic Places. The historic district as a whole is an important cultural resource for Isle Royale National Park. The Tobin Harbor docks are essential for the upkeep of the cabins and the support of the life lessees that spend the summer in many of historic structures. Without the docks at Tobin Harbor, park staff, life lessees, and park visitors would much greater difficulty accessing the Tobin Harbor Historic District.

Need for the Tobin Harbor Docks Replacement Project

Isle Royale National Park needs to replace the deteriorating docks at Tobin Harbor because the docks are essential facilities required for the operation of the park. The Park's General Management Plan (1998) called for the continuation of docks at their present location in Tobin Harbor as an important part of the overall management of facilities at Isle Royale. In past years, minor repairs have kept the docks functional, however, the support structures of the docks have been damaged and temporary repairs are no longer adequate to maintain the functionality of the docks. (Hal Hoenig, personal communication, 2/11/2004). The four fixed docks at Tobin Harbor were built in 1958 and, although routine maintenance and temporary repairs are performed annually, the dock supports have been damaged and the entire docks must be replaced or removed. The damage is primarily caused by winter ice floes that shift constantly and put pressure on the docks. The Tobin Harbor docks are sheltered from the worst of the ice floes by small islands, but after more than 45 years, the supports have shifted and the resulting strain has caused the decking and sideboards to become uneven creating serious walking/ accessibility hazards and damage to boats tied up at the docks. If the docks are not replaced they will have to be closed due to safety concerns and visitors and the park service will no longer have docking facilities in Tobin Harbor.

Figure 1: Isle Royale National Park

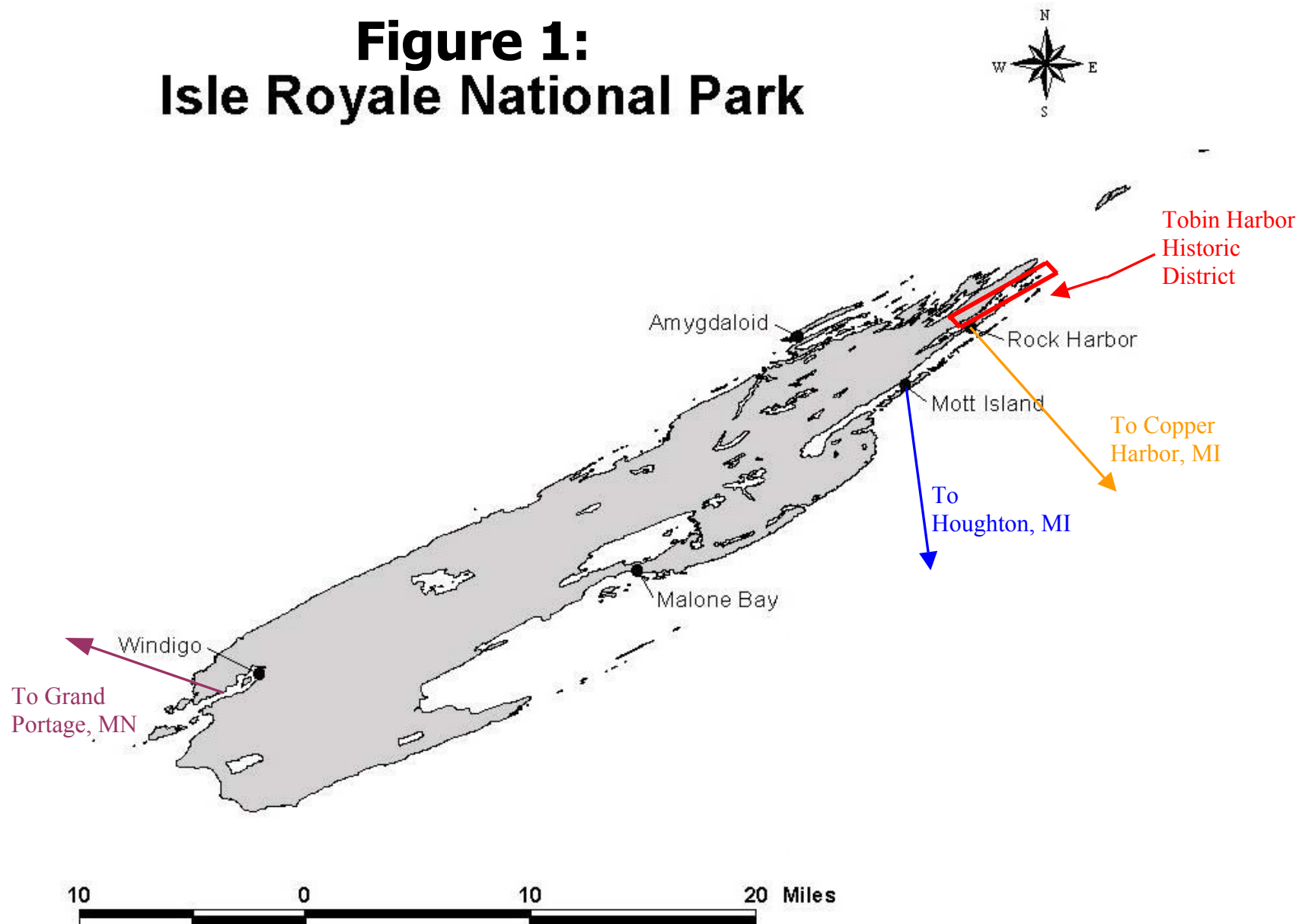


Figure 2: Tobin Harbor Historic District

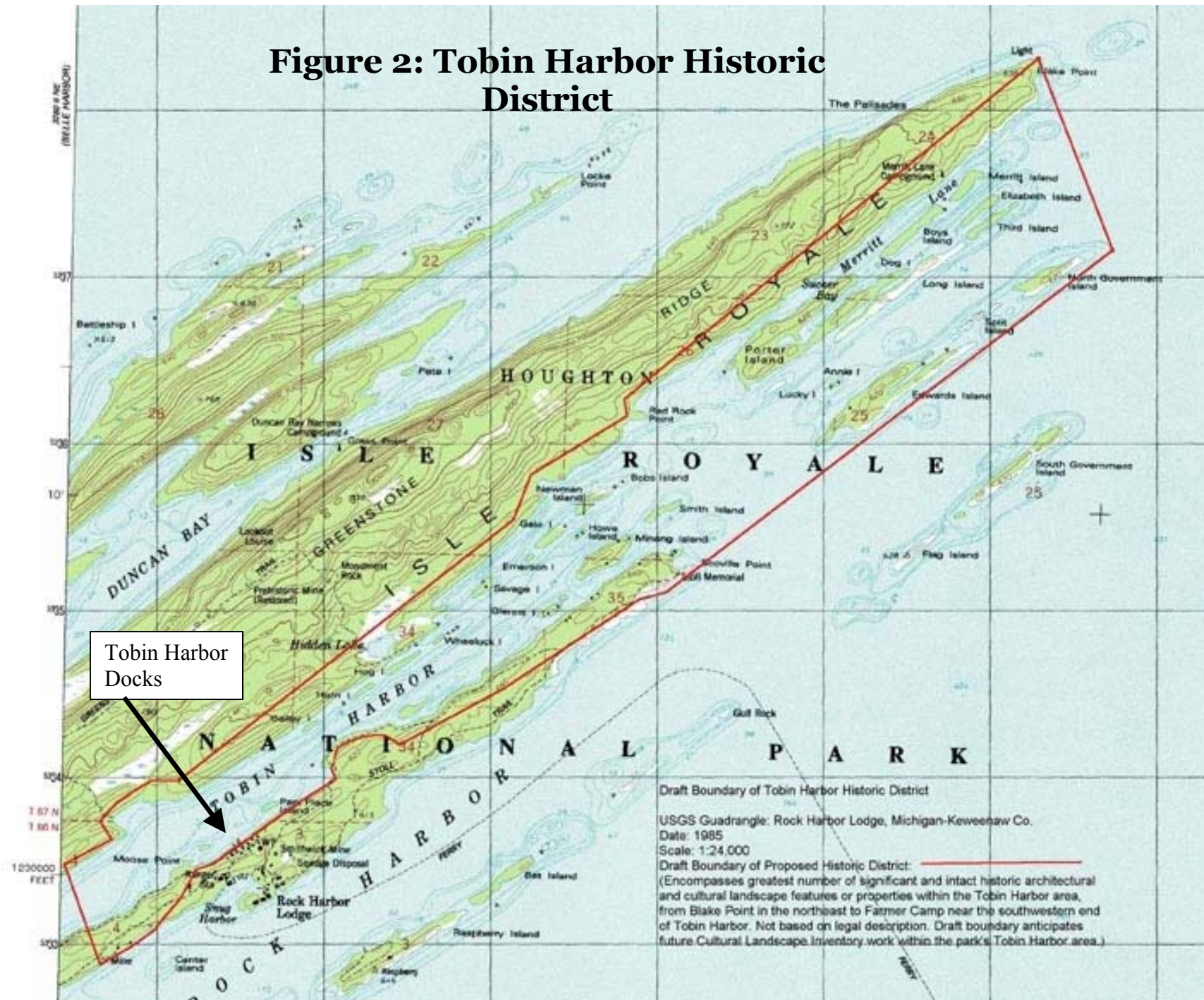
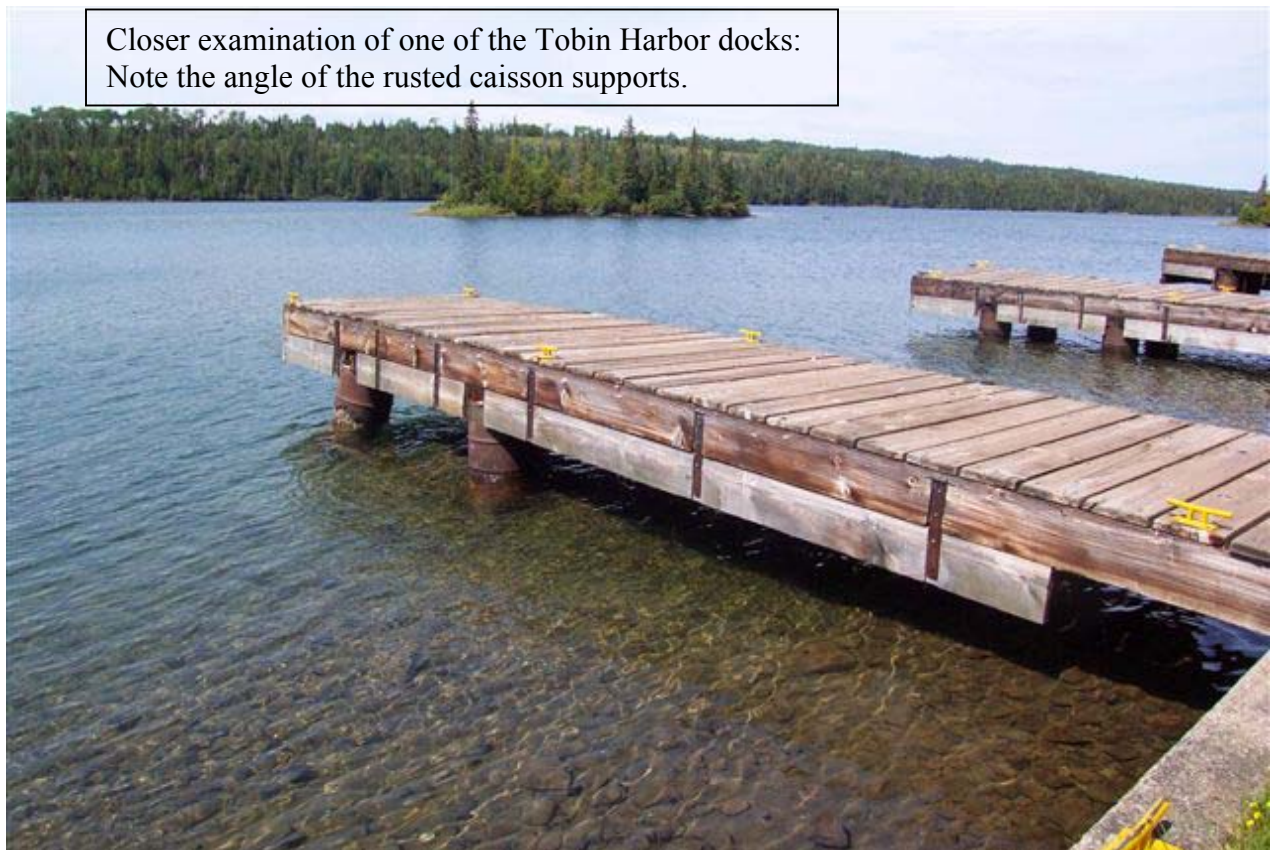
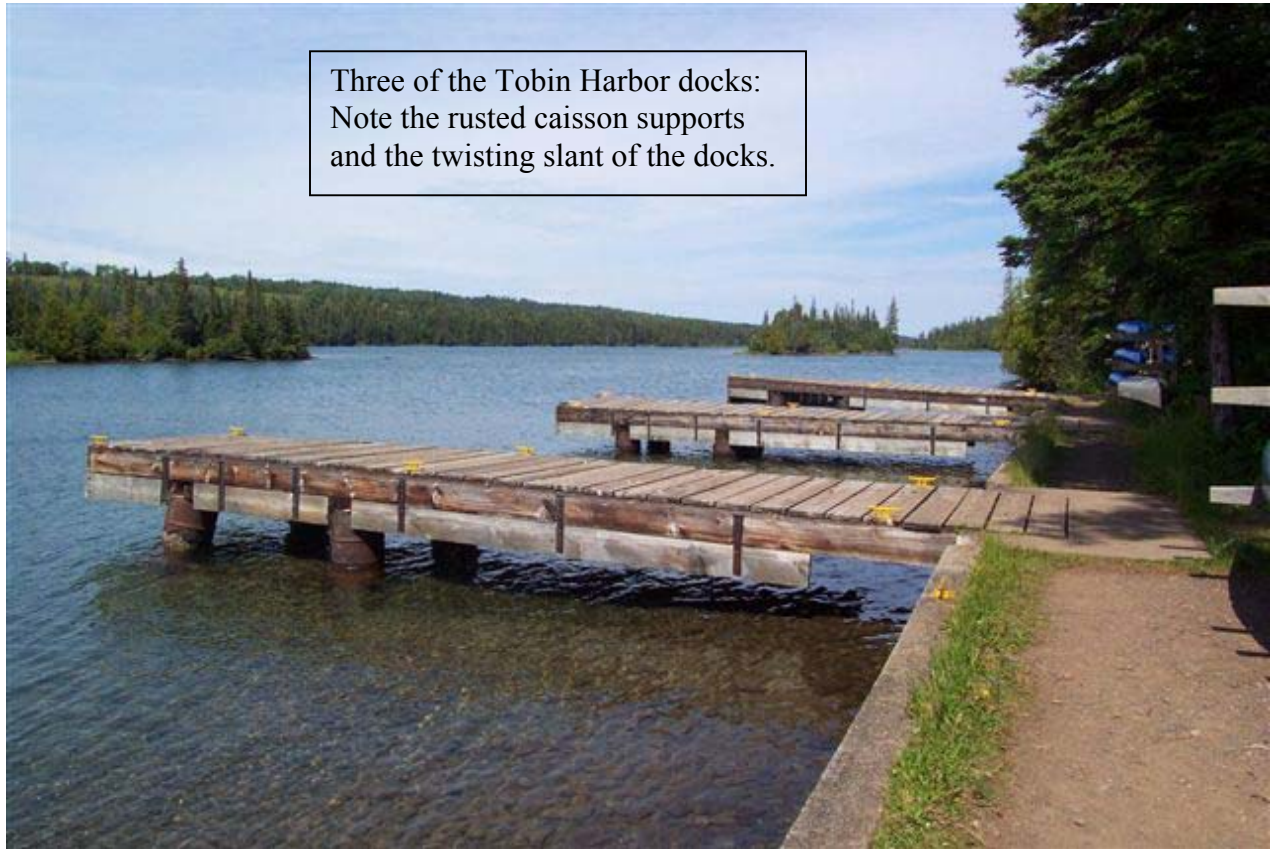


Figure 3: Current Condition of the Tobin Harbor Docks



ISSUES AND IMPACT TOPICS

Issues and Impact Topics Included In This EA

The following issues were identified through the Environmental Screening Form reviewed by the park compliance committee. These issues will be addressed in this document.

Important archeological and other cultural resources, including historic properties listed or eligible for the National Register of Historic Places: Tobin Harbor is an historic district and substantial changes to the docks need to be evaluated based on their impact on this historic resource. The docks, built in 1958, were part of the Mission 66 program, which has begun recently receiving more historic study. There are no known archeological sites near the project areas. (Clark, 1995). The land at the head of the docks has already been impacted by concrete; however, the area needs to be surveyed for submerged cultural resources.

State- listed endangered or threatened species and their habitats: The Common Loon (*Gavia immer*) is listed by the State of Michigan as a threatened species and is active in Tobin Harbor. There are many other plants and animals listed by the State of Michigan as Endangered, Threatened or “Species of Special Concern” found at Isle Royale. However, the Common Loon is the only listed animal active in Tobin Harbor and construction methods under all alternatives will be from the water’s edge and not near any rare plant populations.

Aquatic Species of special concern to Isle Royale:

- A. Coaster Brook Trout (*Salvelinus fontinalis*): Isle Royale National Park is one of only two known breeding sites in Lake Superior for coaster brook trout. Tobin Harbor has been identified as one of the spawning areas at Isle Royale. The morphological and behavioral differences suggest that “Coasters” may be distinct from other brook trout and efforts are being made to determine the genetic differences and similarities. The U.S. Fish and Wildlife service in conjunction with the National Park Service has been stocking the Lake Superior waters off the shore of Isle Royale with Coasters, in an attempt to ensure the survival of this native fish. (U.S. Fish and Wildlife Service- Ashland Fisheries Resource Office, 2003).
- B. *Freshwater Mussels*: The Midwestern region of the United States has the largest diversity of unionid mussels (freshwater clams) in the world. The populations are declining throughout the region for a number of reasons including: changes in physical habitat and water quality, harvesting for shell and pearls and the spread of exotic species such as zebra mussels (*Dreissina polymorpha*) (Nichols, 2002). The Tobin Harbor area was not part of the 1999-2000 unionid study at Isle Royale, however unionid mussels were found in McCargoe Cove, a sheltered bay on the north shore of the island (Nichols, 2002). Because unionids have been found in Lake Superior waters similar to Tobin Harbor, it is important to take great care with dredging and other activities that may disturb potential mussel populations in the harbor. The introduction of invasive species is the greatest threat to native mussel populations. Introduction of these species would likely lead to devastation of native mussel populations, especially in the inland lakes. (Nichols, 2000).

Water Quality in Tobin Harbor: Water quality is important consideration at Isle Royale and the impacts of dredging (including siltation and release of dredged materials) as well as the impact of using treated lumber in the docks supports will be addressed. The project includes Best Management Practices to avoid or minimize such effects.

Public Health and Safety: The current docks are a safety hazard due to uneven decking and sideboards creating tripping hazards and accessibility problems. The current docks are not ADAAG compliant. The impacts to public health and safety of the new docks will be discussed.

Visitor experience/Scenic views: Docks are an important aspect of visitor experience at Isle Royale. The docks at Tobin Harbor are part of the Rock Harbor developed zone, the most developed area in the park and a central facility for visitors to Isle Royale. Due to wildlife concerns, construction will need to take place during a high visitation period. The short-term impacts of construction (including visual and noise impacts) and of the long-term impacts of the new docks on visitor experience and scenic views will be addressed. Construction must occur outside of critical wildlife breeding seasons, which leaves only the peak visitor period for work to be accomplished.

Issues and Impact Topics Dropped From Further Analysis

Other issues were considered for this project and then dropped from further analysis because they either did not apply to Isle Royale or were not expected to be impacted by the proposed action. A discussion of those topics follows.

Federally listed endangered or threatened plants and animals and their habitats: The Endangered Species Act of 1973 requires disclosure of impacts on federally protected threatened or endangered species. Two federally listed threatened species, the Bald Eagle (*Haliaeetus leucocephalus*) and the Gray Wolf (*Canis lupus*), occur at Isle Royale. Neither species will be impacted by the construction or by the new docks under any of the alternatives.

Conflicts between the proposal and land use policy - Wilderness: The replacement of the Tobin Harbor docks does not conflict with wilderness land use policy because the docks are in a non-wilderness area. The impacts of the alternatives on natural resources are discussed in several of the impact topics examined in detail.

Conflicts between the proposal and land use plans, policies, or controls for the are concerned: The proposal meets the guidelines for park management identified in the Final General Management Plan (GMP) Environmental Impact Statement for Isle Royale National Park (1998). The buildings are compatible with the management zones identified in the GMP. The Rock Harbor area, including the Tobin Harbor docks, is in a developed zone where visitor and administrative facilities are appropriate (GMP, 1998). No conflicts with land use plans or policies are anticipated with this project.

Socioeconomic environment: Although there are gateway communities in Minnesota and Michigan providing ferry service and other amenities to Isle Royale visitors, this project will have no impact on those communities.

Environmental justice: Executive Order 12898 requires Federal agencies to incorporate environmental justice into their missions by addressing high human health or environmental effects on minorities or low-income populations or communities. The project will not affect these populations or communities.

Wetlands and coastal zones: Executive Order 11990 "Protection of Wetlands" requires Federal agencies to provide leadership and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial value of wetlands. Executive Order 11990 further requires Federal agencies to avoid undertaking or providing assistance to new construction in wetlands unless the head of the agency finds that there is no practicable alternative. None of the sites in the proposed action will be built in or near wetlands.

The Coastal Zone Management Act of 1972 (Public Law 92-583) was passed to protect, preserve, develop, and restore or enhance, where possible, the nation's coastal zone resources. The "coastal zone" is defined as coastal waters and adjacent shoreline areas that are strongly influenced by each other. The zone includes harbors, beaches, and transitional estuary-type areas such as bays, shallows, and marshes. The coastal zone extends inland from the shoreline only to the extent necessary to control shorelines, the uses of which have a direct and significant impact on coastal waters. This Environmental Assessment will be submitted to the Michigan Department of Environmental Quality to assure that the proposed action is consistent with the Michigan Coastal Management Program, as established by the Coastal Zone Management Act.

Floodplains: There has never formally been a determination of floodplains on Isle Royale. Generally, only small streams have the potential for flooding and only developments close to those streams are vulnerable to flood impacts. The proposed action is not within the flood zone of any of these streams.

Prime and unique agricultural lands: There are no agricultural lands at Isle Royale.

Sacred sites and Indian Trust Resources: No sacred sites have been identified at Isle Royale, nor do we manage Indian trust resources.

ALTERNATIVES

This project is primarily designed to replace the deteriorating docks at Tobin Harbor and to make the new docks ADA accessible. As part of the planning process all reasonable alternatives for dock construction have been considered including length of docks, style of construction and material used for the deck surface. All of the action alternatives considered had to meet the objectives of the action, including safety and ADA accessibility standards.

No Action Alternative

Under this alternative the Tobin Harbor docks would not be replaced. These docks were constructed in 1958 with metal caissons for support. The caissons have shifted considerably resulting in warping of the wooden deck and sideboards. The caissons have also rusted and have a visual impact on the area. This alternative would allow the process of deterioration and decay to continue. The docks might be used for another season, despite the possible safety and aesthetic problems they present. However, the docks are fast becoming a hazard to visitors and staff and would have to be closed to visitor and staff use.

It is not possible to complete additional minor repairs or rehabilitation on the Tobin Harbor docks. The support structures of the docks have shifted (see figure 3) and the docks must either be replaced or taken out of service. Under the No Action Alternative the docks would soon be closed to all use for the safety of visitors and park staff.

Actions Common to All Action Alternatives

The NPS has provided funding specifically to replace the Tobin Harbor docks and make them ADA accessible. Under all of the action alternatives the four current fixed docks (including one with a floating dock used by the seaplane) will be replaced, and the new docks will conform to ADAAG specifications established by the *2002 Final Rule* on accessible boating facilities. Under each of the action alternatives, construction will be required, including dredging. The period of construction will be scheduled to have the least impacts on wildlife resources, specifically Common Loon nesting and coaster brook trout spawning. Unfortunately this means construction must take place during the peak visitor season. A work barge will be located in Tobin Harbor throughout construction. A crane on the barge will be used in dock construction and the docks will therefore be completely inaccessible to boats for at least a six-week period beginning July 15 and lasting through August.

Replacement of the four fixed docks will prevent the use of the current floatplane floating dock, the floatplane will, however, be able to use a separate floating dock to the west of the four fixed docks. Passengers can access this separate dock via the trail from Rock Harbor without entering the construction zone. It may be necessary for construction to halt briefly while the floatplane arrives or departs. Access for canoes and kayaks will be available using the same floating dock used by the floatplane. Once in the harbor canoes and kayaks will need to stay well clear of the construction area.

For all alternatives, quantities of dredge material discussed are maximums for that alternative. Dredging is the process of removing materials from the lake bottom using a scooping device. The dredging equipment will operate from a barge in Tobin Harbor. While the equipment used and the disposal of dredge spoils is different for wood crib docks and modified binwall docks,

under all of the action alternatives, dredge impacts associated with siltation will be minimized through the use of a silt screen or other retention device designed to prevent a silt plume. No shoreline construction or staging of materials will take place. New docks will be attached to the concrete pads already in place at the shoreline.

In an effort to alert visitors, signs will be posted in the visitor centers and information added to the website. Visitors will be notified of the closure of the Tobin Harbor docks to boats and to expect audio and visual impacts from the construction. Press releases will be distributed to area news outlets at the appropriate time.

Alternative A (36-foot long wood crib docks)

This alternative proposes the replacement of the current deteriorated docks and rusted caisson supports with four new 36-foot long wood crib docks. Each dock will be anchored to shore using the concrete pad currently in place and will be supported by a wood crib, which runs under the last 12 feet of the 36-foot dock. A wood crib is a large box that sits on the bottom of the lake and supports the dock. The crib is filled with rocks for weight and stability. Between the shore and the crib, water flows freely beneath the dock. The water depth at the end of each dock will be about seven feet (See figure 4).

Construction will include dredging the lake bottom to set each of the 12-foot long wood cribs. Dredging allows the cribs to sit level on the bottom of the harbor. Additional dredging around each of the docks will increase the water depth around the docks. The amount of material dredged is anticipated to be 5.3 cubic yards to set the crib for each dock and a maximum of 8.6 cubic yards to increase depth around each dock. The total dredging for all four docks would be a maximum of 64 cubic yards.

Under this alternative, NPS personnel will dredge using a clamshell device that operates from a crane on the barge. The clamshell digs into the material on the lake bottom from two sides, the sides then come together trapping material, which is lifted out of the water and deposited into the wood cribs. This material is composed mostly of large rocks. (Hal Hoenig, personal communication, 3/8/2004)

This alternative will be completed using park labor and should take six weeks of construction.

Alternative B (42-foot long wood crib docks)

This alternative proposes the replacement of the current deteriorated docks and rusted caisson supports with new four 42-foot long wood crib docks. Each dock will be anchored to shore using the concrete pad currently in place and will be supported by a wood crib, which runs under 12 feet of the 42-foot dock. The crib will be located in the same place as for the 36-foot long dock and the additional six feet at the water end of the dock will be cantilevered. A cantilever is an angled support that attaches to the wood crib and anchors the additional six feet (see Figure 4). The crib will be filled with rocks for weight and stability. Between the shore and the crib, water flows freely beneath the dock as it does under the last several feet of the dock. Only the 12-foot crib impedes the flow. The water depth at the end of each dock will be about nine feet.

Construction will include dredging the lake bottom to each of the 12-foot long wood cribs. Dredging allows the cribs to sit level on the bottom of the harbor. Additional dredging around each of the docks will increase the water depth around the docks. The amount of material dredged is anticipated to be the same as for Alternative A: 5.3 cubic yards to set the crib for each dock and a maximum of 8.6 cubic yards to increase depth around each dock. The total dredging for all four docks would be a maximum of 64 cubic yards.

Under this alternative, NPS personnel will dredge use a clamshell device that operates from a crane on the barge. The clamshell digs into the material on the lake bottom from two sides, the sides the come together trapping material, which is lifted out of the water and deposited into the wood cribs. This material is composed mostly of large rocks. Silt screening or another retention device will be used to prevent a silt plume from developing. All of the dredge spoils will be used to fill the completed wooden cribs. No spoils will be stockpiled. (Hal Hoenig, personal communication, 3/8/2004)

This alternative will be completed using park labor and should take eight weeks of construction.

Alternative C (36-foot long modified binwall docks)

This alternative proposes the replacement of the current deteriorated docks and rusted caisson supports with four new 36-foot long modified binwall docks. The docks will have wood decking and sideboards and metal binwalls. Binwalls are metal supports that run parallel to the deck of the dock and extend from the deck to the lake bottom. Unlike full binwall construction the modified binwalls do not run the entire length of the docks but stop some distance from shore allowing some littoral flow – although much less than with wood crib support. The docks will be anchored to the shore using the concrete pad currently in place. The water depth at the end of the dock will be about seven feet (See Figure 4).

Construction will include setting the binwalls on the lake bottom. While the binwalls themselves are longer than the 12-foot cribs used in Alternatives A and B, the lake bottom has to be leveled for the cribs to sit flat while the binwalls are able to conform more to the shape of the lake bottom (see Figure 4). Additional dredging around the docks to increase the water depth around the docks is the same for all action alternatives. Overall the maximum amount of dredge material removed for each dock will be about 9.0 cubic yards. For all four docks, a maximum of 36 cubic yards of material would be removed under this alternative compared to 64 cubic yards for Alternatives A and B.

Because NPS personnel do not have the necessary equipment and expertise to complete four modified binwall docks in this location, this alternative requires an outside contractor and probably a longer construction period than the wood crib docks in Alternatives A and B.

The outside contractor would be responsible for construction, including dredging. The contractor would use a work barge and crane and would not use the shoreline for construction or staging of materials. The contractor would be required to use silt screening or another retention device to prevent a silt plume. Since this alternative does not use a wood crib, dredge spoils would not be deposited in the crib and an alternative spoils disposal plan would need to be developed in accordance with state and federal regulations.

Alternative D (42-foot long modified binwall docks)

This alternative proposes the replacement of the current deteriorated docks and rusted caisson supports with four new 42-foot long modified binwall docks. The docks will have wood decking and sideboards and metal binwalls. Unlike full binwall construction the modified binwalls do not run the entire length of the docks but stop some distance from shore allowing some littoral flow – although much less than with wood crib support. The docks will be anchored to the shore using the concrete pad currently in place. As in Alternative B, the last six feet at the water end of each dock will be cantilevered. The binwall supports will therefore be the same as in Alternative C. The water depth at the end of the binwall supports will be about seven feet with about nine feet of depth at the end of the docks.

Construction will include setting the binwalls on the lake bottom. While the binwalls themselves are longer than the 12-foot cribs used in Alternatives A and B, the lake bottom has to be leveled for the cribs to sit flat while the binwalls are able to conform more to the shape of the lake bottom (see Figure 4). Additional dredging around the docks to increase the water depth around the docks is the same for all action alternatives. Overall the maximum amount of dredge material removed for each dock will be about 9.0 cubic yards. For all four docks, a maximum of 36 cubic yards of material would be removed under this alternative compared to 64 cubic yards for Alternatives A and B.

Because NPS personnel do not have the necessary equipment and expertise to complete four modified binwall docks in this location, this alternative requires an outside contractor and probably a longer construction period than the wood crib docks in Alternatives A and B.

The outside contractor would be responsible for construction, including dredging. The contractor would use a work barge and crane and would not use the shoreline for construction or staging of materials. The contractor would be required to use silt screening or another retention device to prevent a silt plume. Since this alternative does not use a wood crib, dredge spoils would not be deposited in the crib and an alternative spoils disposal plan would need to be developed in accordance with state and federal regulations

Alternative E (50-foot long modified binwall docks)

This alternative proposes the replacement of the current deteriorated docks and rusted caisson supports with four new 50-foot long modified binwall docks. The docks will have wood decking and sideboards and metal binwalls. Unlike full binwall construction the modified binwalls do not run under the entire length of the docks but stop some distance from shore allowing some littoral flow – although much less than with wood crib support. The water depth at the end of the dock will be about eleven feet.

Construction will include dredging the lake bottom to set the binwalls. Dredging will also be required to level the steep slope of the lake bottom that begins 36 feet from the shore. This slope extends for several feet and is too steep to use as a foundation. The dredging will not produce much spoil to be removed; instead the material will be redistributed to flatten the slope (Hal Hoenig, 3/8/2004). Additional dredging around the docks to increase the water depth around the docks is the same for all action alternatives. Overall this alternative requires a minimum of more than 36 cubic yards and no more than 100 cubic yards of total dredge spoils. This is more

dredging than Alternatives C and D and possibly more than needed for the wood crib docks in Alternatives A and B.

Because NPS personnel do not have the necessary equipment and expertise to complete four modified binwall docks in this location, this alternative requires an outside contractor and probably a longer construction period than any other alternative. The increased dock length and water depth will make the construction a more difficult, costly and time-consuming process. The four docks might not be completed in the construction period available during a single season and dock closures and other impacts of construction would likely extend into a second year.

The outside contractor would be responsible for construction, including dredging. The contractor would use a work barge and crane and would not use the shoreline for construction or staging of materials. The contractor would be required to use silt screening or another retention device to prevent a silt plume. Since this alternative does not use a wood crib, dredge spoils would not be deposited in the crib and an alternative spoils disposal plan would need to be developed in accordance with state and federal regulations

Alternatives Considered But Rejected

The following alternatives were considered as part of the full range of feasible alternatives for this project, but were rejected because they did not satisfy the purpose and need of the plan.

Concrete Decks

Several of the docks at Isle Royale have concrete decks including docks at Rock Harbor, Mott Island and Windigo. The ferries serving the island stop at these docks and unload many passengers and large volumes of cargo. Other docks with concrete decks include Daisy Farm, Moskey Basin and the Edisen Fishery. In recent years the concrete-decked, binwall docks at Beaver Island and Grace Island were replaced with crib docks with wood decks.

Concrete decks were originally considered for this project. The primary advantage of concrete decking is that less maintenance is required. Wood decking has to periodically be replaced while concrete does not. However, concrete decking was considered unsuitable for the Tobin Harbor docks because this option does not meet the objective of preserving the character of the Tobin Harbor Historic District. The cabins in the historic district all predate the establishment of the national park and the entire harbor has the look of an earlier era. A wood dock is more in keeping with this tradition. Also, the setting of the Tobin Harbor docks has more of a wilderness feel than does the Rock Harbor marina. It is a peaceful, natural setting that is more conducive to wood decking.

Concrete decks also do not meet the third objective, protecting the natural and cultural resources of the park. Concrete contains Portland cement, a major component of which is calcium. Calcium from concrete docks may leach into the water and promote the spread of Zebra Mussels (*Dreissina polymorpha*) and Quagga Mussels (*Dreissina bugensis*) - related species of invasive bivalves that need calcium to create their shells (U.S. Geological Survey, 2002). While neither of these invasive species have been found at Isle Royale, the park is vulnerable to their introduction via personal watercraft that routinely visit from the park from infested ports.

Binwall Construction

Metal binwall construction was originally considered for this project. While modified metal binwall construction is still being considered, full binwall construction has been removed from further analysis. Full binwall docks do not meet the third objective, protecting the natural and cultural resources of the park. A full binwall dock has metal sheeting running the length of the dock on both sides from the shore to the end of the dock and from the lake bottom to the deck. This type of support does not allow for any movement of water beneath the dock (known as littoral flow). Such a drastic disruption in the flow of sediment and water could have a substantial negative impact on the nearshore ecology of the area. With modified binwall construction, which is still being considered, the binwalls begin a distance from shore and extend to the end of the dock. The water and sediments in the shallow area near the shore are allowed to flow under the dock lessening the impact on littoral flow.

In some locations, especially those with strong currents and exposed locations, full binwall docks may last longer because they are not as easily impacted by ice floes. The location of the Tobin Harbor docks is shielded by small islands and is not subject to the damaging ice floes found in some other areas of the park. The current docks in this location are supported by caissons (metal drums filled with concrete) and have lasted 46 years. Because the alternative of full binwall construction does not meet the objective of protecting natural resources it has been removed from further consideration.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

Criteria

NPS Director's Order Number 12 (2001) defines the environmentally preferred alternative as the alternative that best meets the criteria or objectives set out in Section 101 of the National Environmental Policy Act (NEPA). "Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources." The environmentally preferred alternative best meets the following requirements:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Preserve important historical, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
- Ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.

Two additional requirements of the environmentally preferred alternative that are beyond the scope of the current discussion are:

- Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Environmentally Preferred Alternative

Alternative B is the Environmentally Preferred Alternative. As described in the Environmental Consequences section of this document, both Alternatives A and B best protect the natural and cultural resources of Tobin Harbor and Isle Royale. Both alternatives feature wood crib docks that allow the most littoral flow and are appropriate for the historic district. The docks will be constructed using park personnel rather than outside contractors, minimizing the possibility of non-native species being introduced by a work barge, materials or construction crew. The new docks provide for beneficial uses by employees and visitors and they are compatible with the concessions operation and the Rock Harbor marina.

Alternative B does provide for better visitor access in terms of dock capacity and ADA accessibility. The longer docks could accommodate more boats without rafting off or anchoring out. This is potentially better for visitor experience and natural resource protection (specifically loon nesting). Mobility-impaired individuals may be better able to use these ADA accessible docks with the additional six feet in length. Alternative B does require a slightly longer period of construction, but overall, this alternative best satisfies the criteria of providing for a wide range of beneficial uses without degradation of the environment or cultural resources. So, while Alternative A is also acceptable, Alternative B is the Environmentally Preferred Alternative.

Figure 4: Alternative Designs for Tobin Harbor Docks (Not to Scale)

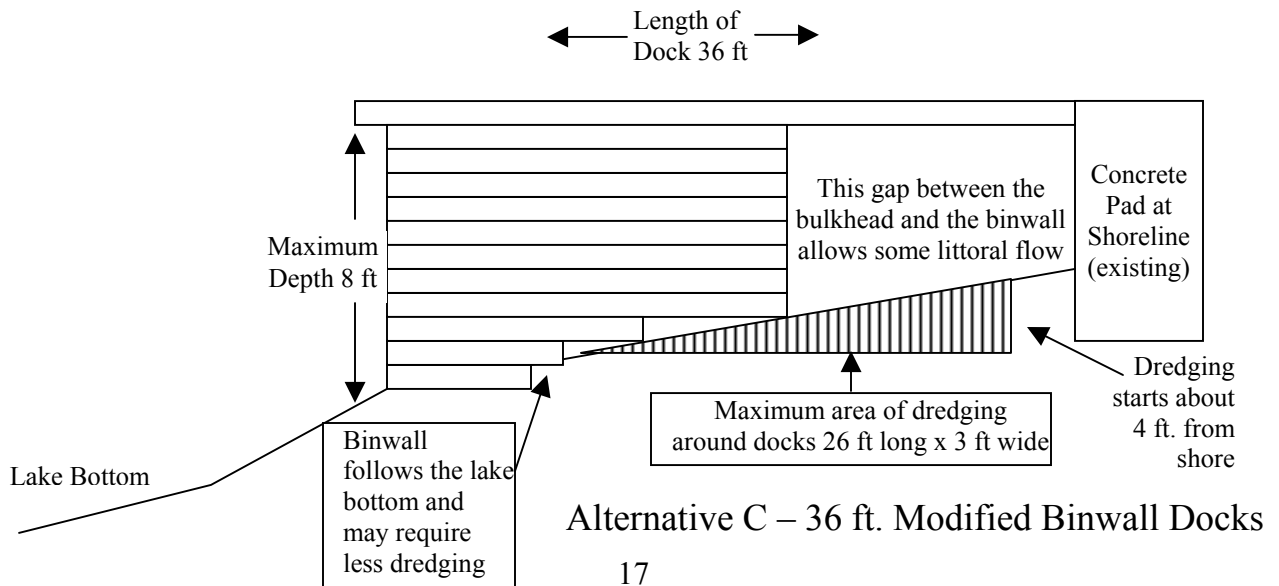
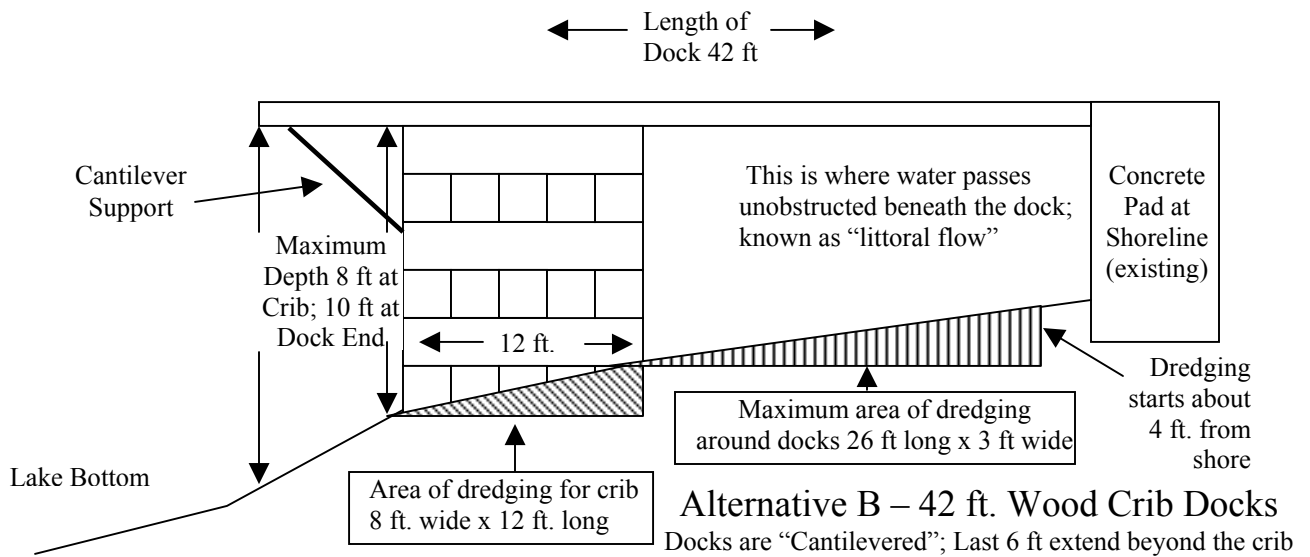
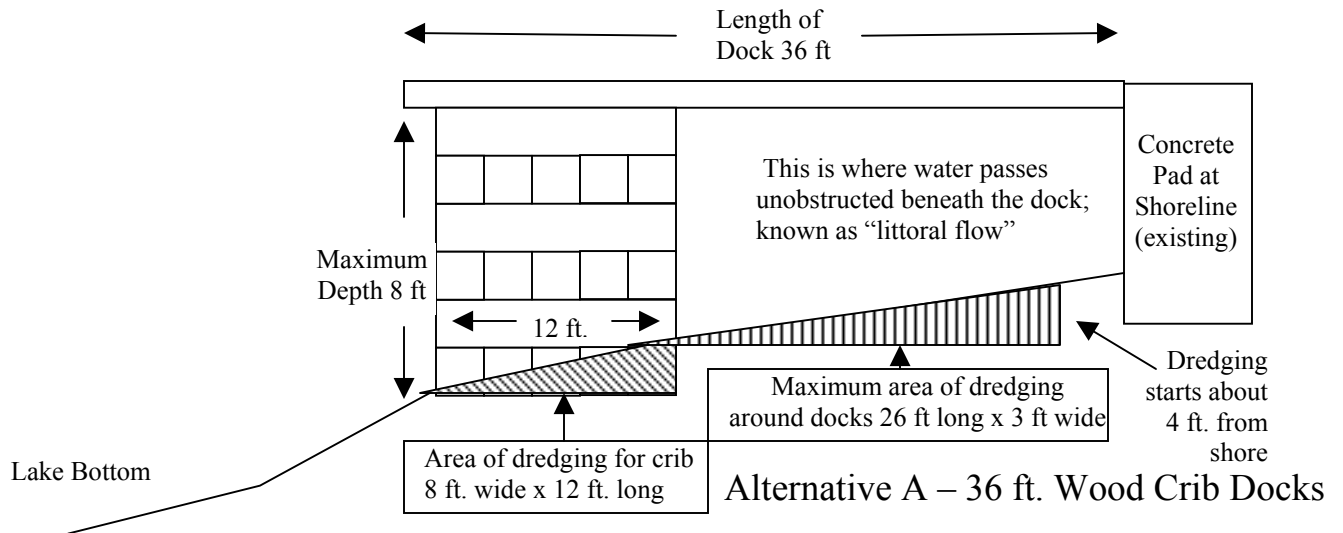


Figure 4: Alternative Designs for Tobin Harbor Docks, pg. 2 (Not to Scale)

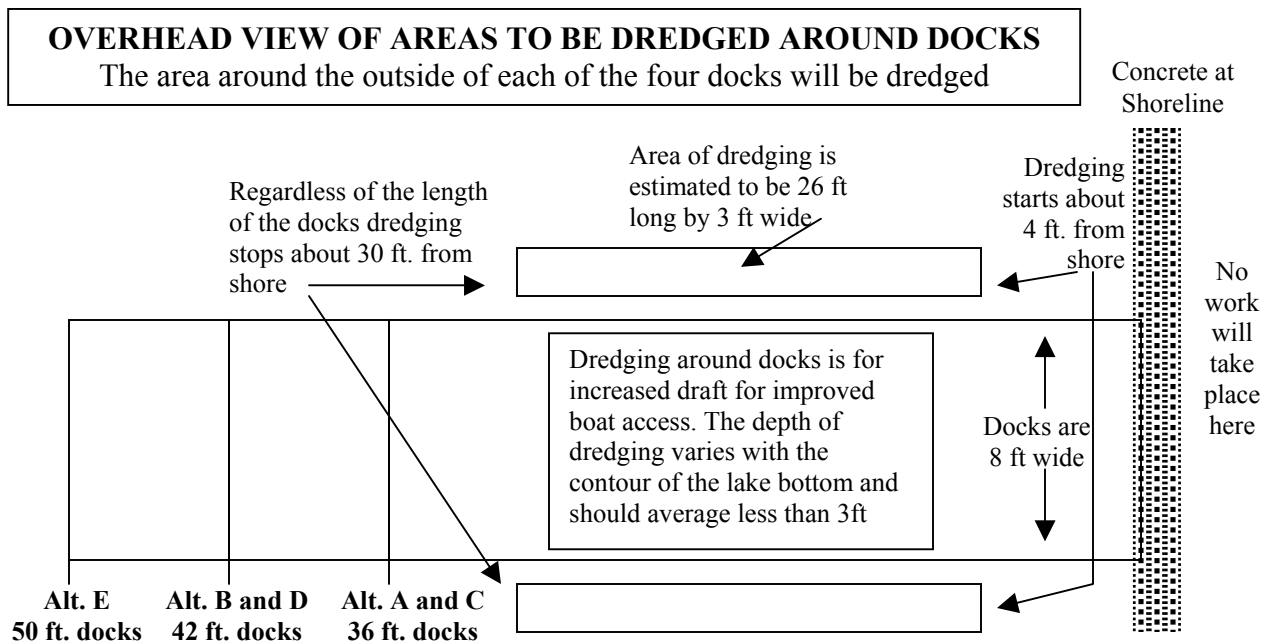
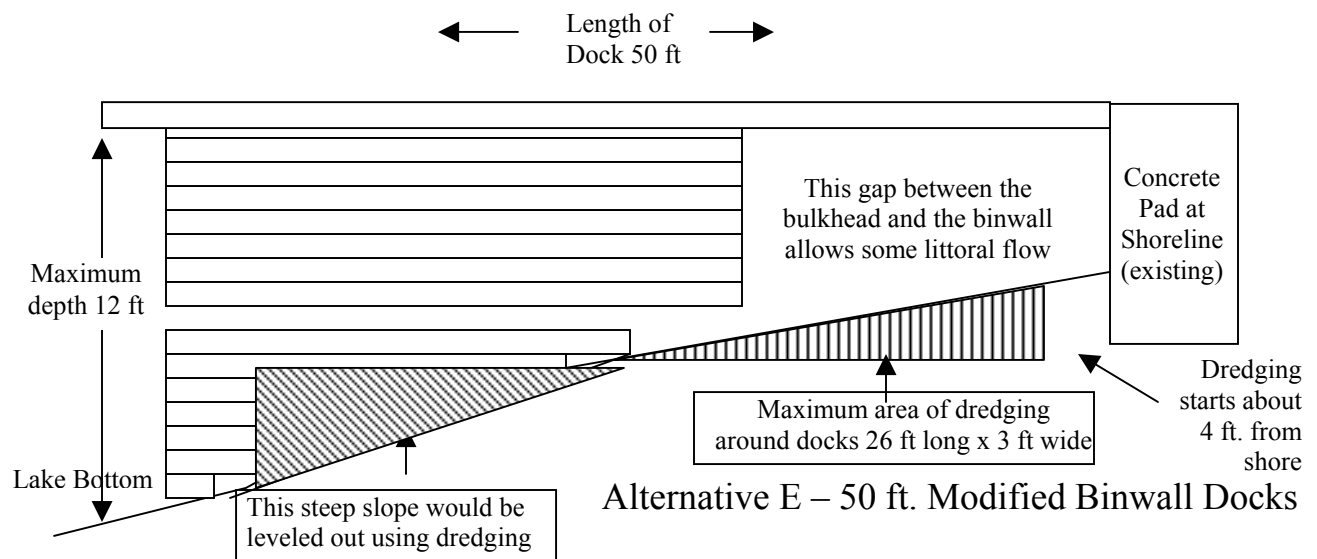
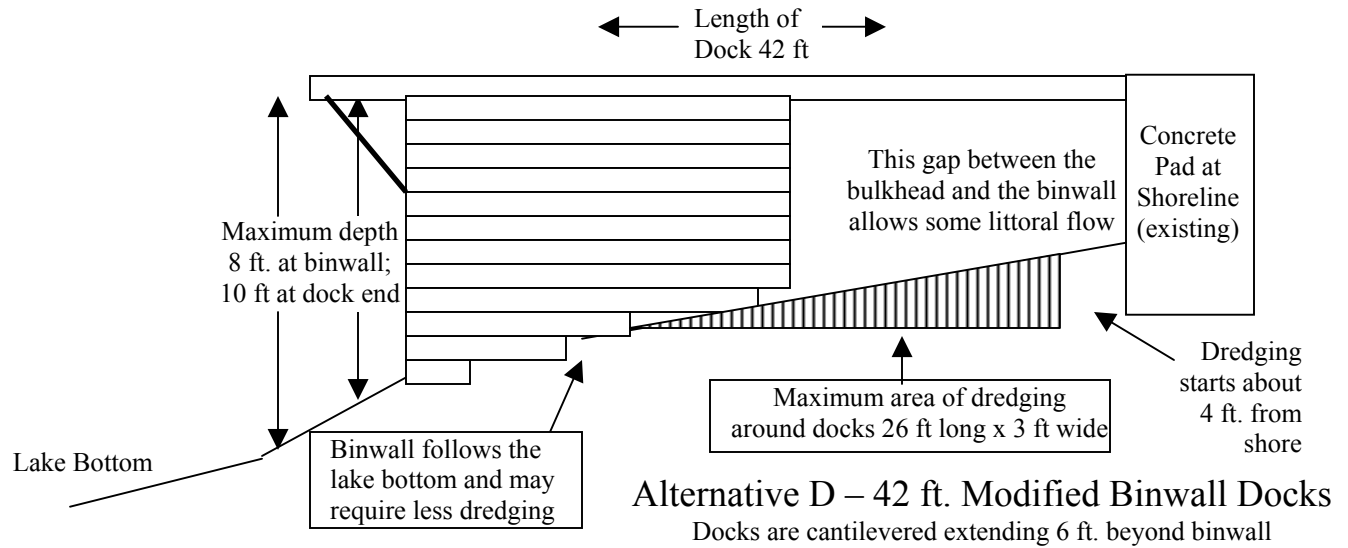


Figure 5: Comparative Summary of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	No Action Alternative
Length of Docks	36 feet	42 feet	36 feet	42 feet	50 feet	36 feet (current)
Expansion	No expansion	6 feet per dock (17 %)	No Expansion	6 feet per dock (17%)	14 feet per dock (39%)	No expansion (current docks)
Type of Construction	Wood Crib	Wood Crib, Cantilevered	Modified Binwall	Modified Binwall; Cantilevered	Modified Binwall	Round, Concrete-filled Metal Drums called “Caissons”
Maximum Amount of Dredging Required	Maximum of 14 cubic yards of material per dock; maximum total of 64 cubic yards	Maximum of 14 cubic yards of material per dock; maximum total of 64 cubic yards	Maximum of 9 cubic yards of material per dock; maximum total of 36 cubic yards.	Maximum of 9 cubic yards of material per dock; maximum total of 36 cubic yards.	Minimum of 36 total cubic yards of material; maximum total of 100 cubic yards.	Currently no dredging, When dock fails dredging will be required to remove or replace
Maximum Water Depth (Dock to Sediments) at the End of the Docks	8 feet	10 feet at dock end 8 feet at crib support	8 feet	10 feet at dock end 8 feet at end of binwall	12 feet	8 feet (current docks)
ADA Accessibility	Yes	Yes	Yes	Yes	Yes	No
Type of Labor	Day Labor - ISRO Dock Crew	Day Labor - ISRO Dock Crew	Outside Contractor	Outside Contractor	Outside Contractor	N/A

Impact Topic	Figure 6: Impact Threshold Definitions				
	Negligible	Minor	Moderate	Major	Duration
<u>Impact Topic 1:</u> Important archeological and other cultural resources, including historic properties listed or eligible for the National Register of Historic Places	<p>Impact is at the lowest levels of detection with neither adverse nor beneficial consequences. The determination of effect for § 106 would be <i>no adverse effect</i>.</p>	<p>Adverse: Impact to the resource is measurable and perceptible, but is slight and localized. The impact does not affect the character defining features of a National Register of Historic Places eligible or listed site and would not have any long-term effects on cultural resources. The determination of effect for § 106 would be <i>no adverse effect</i>.</p> <p>Beneficial: Maintenance and preservation of a site, relatively simple stabilization/ preservation of features in accordance with <i>the Secretary of the Interior's Standards for the Treatment of Historic Properties</i>. The determination of effect for § 106 would be <i>no adverse effect</i>.</p>	<p>Adverse: The impact is measurable and perceptible. The impact changes one or more character defining feature(s) of a National Register of Historic Places eligible or listed site, but does not diminish the integrity of the resource to the extent that National Register eligibility is jeopardized. Disturbance of a site results in a loss of integrity. The determination of effect for § 106 would be <i>adverse effect</i>. Short-term monitoring is required.</p> <p>Beneficial: Stabilization or rehabilitation of a site, structure or landscape in accordance with <i>the Secretary of the Interior's Standards for the Treatment of Historic Properties</i>. Or the improvement or protection of cultural objects in a museum collection. The determination of effect for § 106 would be <i>no adverse effect</i>.</p>	<p>Adverse: Impact to a site, structure, landscape or other cultural resource that results in a loss of integrity. The impact is substantial, noticeable and long-term. The determination of effect for § 106 would be <i>adverse effect</i>. Measures needed to mitigate adverse impacts cannot be agreed upon and the National Park Service cannot execute a memorandum of agreement (MOA) in accordance with 36 CFR 800.6(b). Long-term monitoring is required.</p> <p>Beneficial: Active intervention to preserve a site, extensive restoration of a site, structure or landscape in accordance with <i>the Secretary of the Interior's Standards for the Treatment of Historic Properties</i>. Or would secure the museum collection as a whole and prevent degradation. The determination of effect for § 106 would be <i>no adverse effect</i>.</p>	<p><u>Cultural Resources:</u></p> <p><i>Short-term –</i> Minor impacts to cultural landscapes, ethnographic resources or cultural vegetation lasting less than one year</p> <p><i>Long-term –</i> Any impacts lasting longer than one year and any impacts to archeological sites, cultural artifacts or historic structures.</p>

Impact Topic	Figure 6: Impact Threshold Definitions, page 2				
	Negligible	Minor	Moderate	Major	Duration
<u>Impact Topic 2:</u> State-listed endangered or threatened species and their habitats	An action that would not affect any plants or animals of a state-listed species or their habitat within Isle Royale National Park, or an action that would affect an individual of a selected species, but the change would be so small that it would not be of any measurable or perceptible consequence to the individual or the population.	An action that would slightly affect a few individuals of a sensitive species or have very localized impacts on the habitat of state-listed species within Isle Royale National Park. The impact would require considerable scientific effort to measure and have barely perceptible consequences to the species habitat or function.	An action that would cause measurable effects on: (1) a relatively moderate number of individuals within a sensitive species population, (2) the existing dynamics between species (e.g. predator-prey) or (3) a relatively large habitat area or important habitat attributes within Isle Royale National Park. A sensitive species might deviate from normal population levels under existing conditions but would remain indefinitely viable within the park. Short-term monitoring is required.	An action that would have drastic consequences for: (1) a sensitive species population, (2) dynamics between populations or (3) almost all critical or unique habitat area within Isle Royale National Park. A sensitive species would be permanently altered from the normal population levels present under existing conditions and the species may be at risk of extirpation from the park. Long-term monitoring is required.	<u>Plants and Animals:</u> <i>Short-term</i> – Recovers in less than one year <i>Long-term</i> – Takes longer than one year to recover
<u>Impact Topic 3:</u> Aquatic species of special concern to Isle Royale National Park	An action that would not effect an aquatic species of special concern, or would affect the species but the change would be so small that it would not be of any measurable or perceptible consequence to the species.	An action that would affect a few individuals of a species or have localized impacts on the habitat of a species of special concern to Isle Royale National Park. The impact would have barely perceptible consequences to the species function or habitat.	An action that would cause measurable effects on: (1) a relatively moderate number of individuals within an aquatic species of special concern, (2) the existing dynamics between species (e.g. predator-prey) or (3) a relatively large habitat area or important habitat attributes within Isle Royale National Park. A sensitive species might deviate from normal population levels under existing conditions but would remain indefinitely viable within the park. Short-term monitoring is required.	An action that would have drastic consequences for: (1) an aquatic species of special concern, (2) dynamics between populations or (3) almost all critical or unique habitat area within Isle Royale National Park. An aquatic species of special concern population would be permanently altered from the normal population levels present under existing conditions and the species may be at risk of extirpation from the park. Short-term monitoring is required.	<u>Plants and Animals:</u> <i>Short-term</i> – Recovers in less than one year <i>Long-term</i> – Takes longer than one year to recover

Impact Topic	Figure 6: Impact Threshold Definitions, page 3				
	Negligible	Minor	Moderate	Major	Duration
<u>Impact Topic 4:</u> Water quality in Tobin Harbor	An action that would cause no changes in water quality or would be at the lowest levels of detection. Any effects would be considered slight and short-term.	Changes in water quality, including siltation, would be measurable although the changes would be small and short-term and the effects would be localized. If mitigation were needed to offset adverse affects it would be relatively simple to implement and would likely be successful.	Changes in water quality would be measurable, and would have consequences for aquatic species, although the effect would be contained/ containable. Impacts would be limited to a single point and short-term. Mitigation measures would be necessary and the measures would likely be successful. Short-term monitoring may be necessary.	Changes in water quality would be readily apparent, long-term and would substantially change the quality of water in a large area, with effects that are not readily containable. Mitigation measures would be necessary and their success could not be guaranteed. Park drinking water supply could be affected. Monitoring necessary.	Water Quality: <i>Short-term</i> – Recovers in less than one month <i>Long-term</i> – Takes longer than one month to recover
<u>Impact Topic 5:</u> Public Health and Safety	Public health and safety would not be affected, or the effects would be at low levels of detection and would not have an appreciable impact.	Adverse: The effect would be detectable, but would likely be short-term and would not have an appreciable impact on public health and safety. Beneficial: The positive effects would be detectable and short-term but would not have an appreciable impact.	Adverse: The effects would be readily apparent and would result in substantial noticeable effects to public health and safety on a local scale. Effects would likely be long-term. Mitigation efforts would probably be necessary and likely successful. Beneficial: Positive effects would be readily apparent and action would result in substantial impacts to public health and safety on a local scale.	Adverse: The effects would be readily apparent and long-term, and would result in substantial, noticeable effects to public health and safety on a regional scale. Extensive mitigation measures would be needed, and their success would not be guaranteed. Beneficial: Long-term, substantial regional effects to public health and safety.	<u>Public Health and Safety:</u> <i>Short-term</i> – Effects last less than one year <i>Long-term</i> – Effects last longer than one year

Impact Topic	Figure 6: Impact Threshold Definitions, page 4				
	Negligible	Minor	Moderate	Major	Duration
<u>Impact Topic 6:</u> Visitor experience/ Scenic Views:	Visitors would likely not be aware of changes associated with implementation of the alternative.	<p>Adverse: Visitors would likely be aware of the changes associated with implementation of the alternative, however the impacts would be slight and likely short-term.</p> <p>Beneficial: Visitor use and scenic views would be positively impacted by the implementation of the alternative, however the impacts would be slight and likely short-term.</p>	<p>Adverse: Impacts to visitor use and scenic views would be readily apparent and likely long-term. The park would remain available for quality visitor experiences without degradation of park resources and values, but visitor satisfaction may be measurably affected.</p> <p>Beneficial: Positive impacts to visitor use and scenic views would be readily apparent and likely long-term. Visitor satisfaction would likely increase with the implementation of the alternative.</p>	<p>Adverse: Visitors would be substantially impacted by the implementation of the alternative. Changes in visitor experience would be readily apparent and long-term. The change in visitor use and scenic views would preclude some visitors from enjoyment of park resources or values.</p> <p>Beneficial: Positive impacts to visitor use and scenic views would be substantial, apparent and long-term. Visitor satisfaction would increase and new visitors would enjoy park resources and values.</p>	<p><u>Visitor Use and Scenic Views:</u></p> <p><i>Short-term</i> – Effects last less than one year</p> <p><i>Long-term</i> – Effects last longer than one year</p>

Figure 7: Comparative Summary of Impacts

Impact Studied in Detail	Alternative A 36 Foot Wood Crib	Alternative B 42 Foot Wood Crib	Alternative C 36 Foot Modified Binwall	Alternative D 42 Foot Modified Binwall	Alternative E 50 Foot Modified Binwall	No Action Alternative
Impact Topic 1: Important Archeological and Other Cultural Resources, Including Historic Properties -- The docks are located in the <i>Tobin Harbor Historic District</i>	Long-term, minor, beneficial impact to historic district. Direct impact – wood crib dock adds to integrity of historic district. Indirect impact – new docks facilitate upkeep of historic structures.	Same impacts as Alternative A.	Long-term, minor, beneficial, indirect impact to historic district because new docks facilitate upkeep of historic structures. Long-term, minor, adverse, direct impact because metal binwall docks are incompatible with historic district	Same impacts as Alternative C.	Same impacts as Alternative C.	Long-term, moderate, adverse impact on historic district. Direct impact – deteriorating docks incompatible with historic district. Indirect impact – lack of functional docks adverse effects the upkeep and repair of historic structures.
Impact Topic 2: State –Listed Endangered of Threatened Species and Their Habitats – <i>Threatened:</i> Common Loon <u>Common to all action alternatives:</u> Construction will be scheduled to begin after July 15 th to avoid Common Loon nesting season.	Long-term, minor, adverse, indirect impact on the Common Loon. Additional boats may be attracted to the harbor by the new docks. If this new traffic occurs before July 15 th each season it could have a negative impact on loon nesting. Boats that would anchor out may also use the docks positively impacting loon nesting. The impacts will be barely perceptible.	Same scope and type of impacts as Alternative A. Slightly longer docks may draw some additional traffic but impacts still minor.	Same impacts as Alternative A.	Same scope and type of impacts as Alternative A. Slightly longer docks may draw some additional traffic but impacts still minor.	Long-term, minor to moderate, adverse, indirect impact on the Common Loon. Longer docks would draw more boat traffic and result in more boats anchoring out encroaching on loon nesting territories.	Long-term, moderate, adverse, indirect impact on the Common Loon. Without docks to concentrate their use boaters would anchor out more frequently in Tobin Harbor encroaching on loon nesting territories.

Figure 7: Comparative Summary of Impacts, pg. 2

Impact Studied in Detail	Alternative A 36 Foot Wood Crib	Alternative B 42 Foot Wood Crib	Alternative C 36 Foot Modified Binwall	Alternative D 42 Foot Modified Binwall	Alternative E 50 Foot Modified Binwall	No Action Alternative
<p>Impact Topic 3: Aquatic Species of Special Concern to Isle Royale:</p> <p>A. Coaster Brook Trout B. Unionid (Freshwater) Mussels</p>	<p>Short-term, minor, adverse, direct impact on both coaster brook trout and freshwater clams. Adverse impacts are the result of dredging which would negatively affect any mussels living in the area and coaster brook trout spawning areas. Wood cribs require additional dredging.</p>	<p>Same impacts as Alternative A.</p>	<p>Same short-term, minor, adverse, direct impact as Alt. A. Long-term, moderate, adverse, indirect impact as a result of the decreased littoral flow due to binwall construction. Also risk of invasive species introduction from outside contractor.</p>	<p>Same impacts as Alternative C.</p>	<p>Same impacts as alternative C plus additional indirect impacts to littoral flow from increased length of binwall supports and additional threat of invasive species because contractors would need two seasons to complete.</p>	<p>Negligible impact to coaster brook trout and a long-term, minor, adverse, indirect impact on freshwater mussels. Rusting concrete-filled caissons would provide a source of calcium for invasive zebra mussels if they become established, adversely affecting the native freshwater mussels.</p>
<p>Impact Topic 4: Water Quality in Tobin Harbor</p>	<p>Short-term, minor, direct, adverse impact to water quality in Tobin Harbor. Siltation from dredging will be minimized through silt fencing reducing the impact from moderate to minor. Chemically inert treated lumber will be used to prevent leaching.</p>	<p>Same impacts as Alternative A.</p>	<p>Same impacts as Alternative A.</p>	<p>Same impacts as Alternative A.</p>	<p>Same impacts as Alternative A.</p>	<p>Negligible impacts to water quality in Tobin Harbor. Deteriorating docks do not impact water quality.</p>

Figure 7: Comparative Summary of Impacts, pg 3

Impact Studied in Detail	Alternative A 36 Foot Wood Crib	Alternative B 42 Foot Wood Crib	Alternative C 36 Foot Modified Binwall	Alternative D 42 Foot Modified Binwall	Alternative E 50 Foot Modified Binwall	No Action Alternative
<p>Impact Topic 5: Public Health and Safety-- The dock surface is no longer level due to shifting of the permanent supports thus creating a hazard to public safety.</p>	<p>Long-term, moderate, beneficial impact to public health and safety. Direct impact - new docks will have level decking and sideboards for safer visitor use. Indirect impact – Docks will be available in emergencies and to park staff.</p>	<p>The same impacts as Alt. A, and the longer docks may have the additional positive impact of allowing mobility-impaired visitors easier access to the docks.</p>	<p>Same impacts as Alternative A.</p>	<p>Same impacts as Alternative B.</p>	<p>Same impacts as Alternative B.</p>	<p>Short-term, minor, adverse, direct impact to public health and safety from continued deterioration of docks. Long-term, moderate, adverse, indirect impact from closing of docks which will not be available in an emergency or to park staff.</p>
<p>Impact Topic 6: Visitor Experience / Scenic Views -- <u>Common to all action alternatives:</u> During construction visitors will not be able to access the docks. Scenic views may be disrupted by construction and the accompanying noise level will often be higher than usual for this area.</p>	<p>Short-term, moderate, adverse, direct impact to visitor use and scenic views due to construction. Impacts include noise, construction equipment and docks unavailable for use. Long-term, moderate, beneficial, direct impact on visitor experience and scenic views from having new docks with level decking and sideboards that are easier to use and visually pleasing.</p>	<p>Same impacts as Alt. A. Impacts from construction last two weeks longer.</p>	<p>Same impacts as Alt. A. Impacts from construction last more than two weeks longer.</p>	<p>Same impacts as Alt. A. Impacts from construction last more than two weeks longer and possibly into a second season.</p>	<p>Same impacts as Alt. A. Impacts from construction last two seasons.</p>	<p>Long-term, moderate, adverse, direct impact to visitor experience including scenic views. The deteriorating docks will become unusable in 1 –2 seasons and are already becoming unsafe. When docks are closed visitors will no longer be able to use them. The docks, with their rusted caisson supports, are not aesthetically pleasing and can disrupt scenic views in Tobin Harbor.</p>

Environmental Consequences

In this section, the effects of each of the alternatives on the impact topics are reviewed.

According to NPS guidelines for NEPA (Director's Order 12) there are several categories of impacts to be considered:

- **Direct Impacts** are caused by an action and occur in the same time and place as the action.
- **Indirect Impacts** are caused by an action and occur later in time, or in a different location than the action itself, but are still reasonably foreseeable.
- **Duration of the Impact** may be short term or long term. (See figure 6).
- **Type of Impact** may be beneficial or adverse. (See figure 6).
- **Intensity of Impact** may be negligible, minor, moderate, or major. (See figure 6).
- **Cumulative Impacts** are incremental impacts of an action when added to other past, present, and reasonable foreseeable future actions, regardless of who takes the action.
- **Impacts that cause Impairments** are not permissible and are defined as those that harm the integrity of the national park resources or values.

Impact Topics

1. **Important archeological and other cultural resources, including historic properties listed or eligible for the National Register of Historic Places:**

Affected Environment:

The Tobin Harbor Historic District encompasses most of Tobin Harbor. The district is comprised of more than a dozen structures eligible for listing on the National Register of Historic Places as well as the surrounding landscape. The structures all date from the resort era of Isle Royale's pre-Park history and were constructed between 1890 and 1936. The Tobin Harbor Historic District was designated to preserve not only the structures, but also the historic look and aspect unique to the larger summer cabin community at Tobin Harbor. No land archeological sites are in the construction area. (Clark, 1995). An underwater archeological survey will look for artifacts on the lake bottom before dredging takes place. There are no ethnographic resources in the affected area.

No Action Alternative: The No Action Alternative would have a long-term moderate adverse impact on the Tobin Harbor Historic District by allowing the docks to further deteriorate. As a direct impact the deteriorating docks -supported by rusted metal caissons – are incompatible with the historic district. An indirect adverse impact is the lack of a functional dock negatively impacting the upkeep and repair of the historic structures in the harbor. Currently life lessees and special permit holders who use the cabins in Tobin Harbor maintain many of these structures. Without functioning docks in Tobin Harbor maintenance of the structures will become much more difficult and the structures will suffer the adverse impacts.

Alternative A: This alternative would have a long-term, minor beneficial impact on the Tobin Harbor Historic District and a negligible impact on other cultural resources. By replacing the deteriorating docks with new wood crib style docks that are most in keeping with the historic

character of the area, this alternative adds to the integrity of the Tobin Harbor Historic District a direct impact. The new docks also provide access for the maintenance and repair of the historic structures in the harbor, all of which are eligible for listing in the National Register of Historic Places, an indirect beneficial impact.

Alternative B: This alternative would have the same long-term, minor beneficial impact on the Tobin Harbor Historic District and negligible impact on other cultural resources as Alternative A

Alternative C: This alternative would have a long-term, minor beneficial indirect impact on the Tobin Harbor Historic District by providing access for the maintenance and repair of the historic structures in the harbor, all of which are eligible for listing in the National Register of Historic Places. The alternative would also have a minor adverse direct impact due to the use of metal binwall style docks. These docks are not in keeping with the historic nature of Tobin Harbor and would detract from the characteristics that make the area an historic district. The alternative would have a negligible impact on the other cultural resources.

Alternative D: This alternative would have the same impacts as Alternative C, a long-term, minor, indirect beneficial impact on the maintenance and upkeep of Tobin Harbor Historic District and a long-term, minor direct adverse impact on the character of the historic district due to the binwall construction of the docks. The alternative would have a negligible impact on the other cultural resources.

Alternative E: This alternative would have the same impacts as Alternative C, a long-term, minor, indirect beneficial impact on the maintenance and upkeep of Tobin Harbor Historic District and a long-term, minor direct adverse impact on the character of the historic district due to the binwall construction of the docks. The alternative would have a negligible impact on the other cultural resources.

Cumulative Impacts: No past, ongoing or reasonably foreseeable future actions by Isle Royale National Park staff or others would, in combination with the impacts just described, result in cumulative impacts to primary national park features under any of these alternatives. The park is undertaking a park-wide cultural resources planning effort that will address the cultural resources throughout the island, including in Tobin Harbor. However, this is distinct from the decision to replace the failing docks at Tobin Harbor.

Resource Impairment:

None of the actions proposed in these alternatives would impair park resources or values.

2. State listed endangered or threatened species and their habitats:

Affected Environment:

A number of species listed by the State of Michigan as Endangered, Threatened or “Species of Special Concern” are found at Isle Royale. These species and sub-species are not afforded the same formal protection provided by the Endangered Species Act, but NPS policy grants them similar protection through a commitment to “inventory, monitor, and manage state and locally listed species in a manner similar to its treatment of federally listed species, to the greatest extent possible” (NPS Management Policies 2001).

Common Loons:

The Common Loon, one of species listed as threatened by the State of Michigan, has the potential to be affected by the replacement of the Tobin Harbor docks. Common Loons are known to be active in Tobin Harbor including nesting territories in the harbor that are used on an annual basis. Common Loons are susceptible to being scared off of their nests by encroaching human activity. If they are driven from their nests too frequently or for too long a period the nests will fail. Common Loons return to their nests early in the spring and chicks are fledged by July 15th each year. Because of the potential for nest failures caused by the disturbance surrounding the replacement of the Tobin Harbor docks, construction would not begin before July 15th.

No Action Alternative: This alternative would have a long-term, moderate, adverse, indirect impact on the Common Loon. The Tobin Harbor docks would not be replaced under this alternative and would be closed to visitor use within 1-2 visitor seasons. Without docks to use for overnight stays and visits Tobin Harbor, many more visitors would choose other options that encroach on Common Loon nesting sites. During the nesting season, use would no longer be concentrated at the docks but would be spread out and encroach on sensitive loon areas. These adverse impacts could continue indefinitely and are therefore long-term.

Alternative A: This alternative would have a long-term minor adverse indirect impact on the Common Loon. Construction would take place in Tobin Harbor, an important area of the park for Common Loon nesting. Aspects of construction that may have negative impacts on the Common Loon include additional anchoring out in the harbor while the docks are out of service and noise associated with the construction. These negative impacts will be minor because construction will be scheduled to begin after July 15th, after loon chicks have hatched and are off of the nest. Additionally, construction will take place in an area that is part of a “developed zone” as defined by the Park GMP (1998). Construction activity will be geographically limited to the area around the docks and this is an area of constant human activity.

After construction, new docks may attract slightly more traffic to the harbor in future seasons. The critical period is before July 15th when loons are nesting. If more boats visit the harbor during loon nesting season this could have some indirect adverse impacts on nesting success. But, if boats that would have previously anchored out in the harbor (because of the poor quality of the current docks) use the new docks, this could lessen negative impacts on loon nesting by concentrating activity at the docks and reducing the risks of anchoring out within a nesting territory.

The positive or negative impacts to loons from this alternative would be difficult to measure from season to season because of all the variables involved in loon nest success. Overall impacts to loon habitat in Tobin Harbor will be barely perceptible.

Alternative B: This alternative would also have a long-term, minor, adverse, indirect impact to Common Loons. This alternative has the same impacts as Alternative A and it includes longer docks, which result in some increase in boat traffic in Tobin Harbor. However, the number of boats visiting the island limits the extent to which traffic can increase. While some boaters already visiting Isle Royale may choose to use the new Tobin Harbor docks instead of other docks at the park, new docks alone are not likely to bring a lot of new boaters to the park –

especially in an era of increasing fuel costs. In fact, the number of boaters (both sail and motor) visiting the island declined every year from the peak season of 1994 until 2000. In the past four years visitation has held steady at about 2600 motorboats and 300 sailboats visiting the island each year. The number of boats registered in the state of Michigan has also remained stable over the past eight years. (Michigan Secretary of State, Information Services Division, Total Registered Watercraft, 03/03/04).

The number of boaters visiting from Wisconsin and Minnesota continues to be a very small percentage of the total registered boats in those two states. An informative study by the Minnesota Department of Natural Resources looked at the reasons boaters visited various destinations. The availability and quality of facilities were certainly considerations for boaters, but in Lake Superior boating, time and distance constraints and fear of Lake Superior waters were important limiting factors. Isle Royale already has a very positive image in the minds of Minnesota and Wisconsin boaters. Only the Apostle Islands National Park received higher ratings than Isle Royale in the Minnesota DNR survey. Boaters who had frequented Lake Superior were more likely to give Isle Royale higher ratings. These data seem to indicate that Isle Royale is a desirable destination, especially to those who have experience boating in the area. It would also appear from this study that the decade-long decline in the number of boaters visiting Isle Royale may be the result of factors outside the control of park management - including time and distance, fear of Lake Superior waters, and costs (Minnesota DNR, 2003).

The majority of boats visiting Isle Royale are between twenty and thirty feet in length with a draft of less than four feet. Some smaller boats come to the island from Minnesota during fair weather and other small boats are transported to the island on the *Ranger III* ferry. In 2003, more than three-quarters of boats visiting Isle Royale were less than 30 feet in length (ISRO boat permit statistics, 2003). These boats, rather than the larger boats visiting the island, are appropriate for Tobin Harbor. Larger boats, and sailboats with a deep draft, can have difficulty navigating in Tobin Harbor, which has many shoals and reefs particularly near the Tobin Harbor docks. Larger boats and boats with a deep draft are better served by the deeper waters of Rock Harbor marina. The marina also has utility hookups and convenient access to services.

The information in the Minnesota DNR study indicates that electricity hookups and proximity to services like a store, restrooms, and showers are important reasons that people choose a boating destination (Minnesota DNR, 2003). The Rock Harbor marina is the only place at Isle Royale offering all of these amenities (Windigo has a store, showers and restrooms but no utility hookups).

The Tobin Harbor docks are more isolated and rustic than the Rock Harbor marina. The docks are located in the Tobin Harbor Historic District, an area with many historic structures, all built before 1940. Tobin Harbor is both natural and historic and offers visitors a different feel than any other area in the Park. For the majority of boaters, the Tobin Harbor docks offer the alternative of a more natural setting without the amenities. While, those boaters who use the Rock Harbor marina have the advantage of utility hookups and proximity to the store, restaurant, visitor's center, evening programs, restrooms and showers and accommodations for larger boats.

A shift that might have beneficial impacts for Common Loon nesting would be moving some vessels that now anchor out in Tobin Harbor to the docks. Boats anchoring out are generally closer to loon nesting sites and have the effect of expanding the impacts of use, whereas docks

concentrate use in a known area. By bringing the boats together at docks that are already the site of constant human use, longer docks might have some positive impact on loon nesting.

Another consideration is the effect of canoes and kayaks in the harbor. Isle Royale Resorts rents both canoes and kayaks and many visitors bring their own canoe or kayak to the island. These boats have very little draft and can be paddled close to shore, potentially impacting loon nesting to a greater extent than most motorized boats, which require more draft and must generally remain further from shore. Canoes and kayaks do not require docks and Tobin Harbor is a favorite destination for paddlers. Fishing boats also frequent the harbor and may negatively impact loons if they approach nests too closely.

The 42-foot docks might draw some additional boats to the harbor. However, as discussed the increased length of the 42-foot docks might have the positive impact of drawing boaters to the docks instead of anchoring out in Tobin Harbor without likely adding significantly to the overall use numbers and attendant potential negative impacts to natural and cultural resources. Alternative B would have the same scope and type of impacts as Alternative A: long-term, minor adverse, indirect impact to Common Loons.

Alternative C: This alternative would have the same long-term, minor, adverse, indirect impact as Alternative A.

Alternative D: This alternative would have the same long-term, minor, adverse, indirect impact as Alternative B.

Alternative E: Alternative E would have a long-term, minor to moderate, adverse, indirect impact to Common Loons and their nesting success. The number of nesting pairs negatively affected each year could be greater under this alternative because it would draw additional boats to Tobin Harbor. Not only would the owners of larger boats use the new docks, but they might be drawn to the greatly increased dock length only to find they had to anchor out because of the shallow reefs near the docks. Anchoring out and increased boater use prior to July 15th has a greater impact on Common Loons because anchored boats encroach on loon territories. The magnitude of the impact would depend on how much additional use occurred before July 15th each season.

Cumulative Impacts: No past, ongoing or reasonably foreseeable future actions by Isle Royale National Park staff or others would, in combination with the impacts just described, result in cumulative impacts to primary national park features under any of these alternatives. This dock replacement is not part of a larger project. There are no additional construction projects of this type scheduled for Tobin Harbor. The Isle Royale GMP (1998) planned for visitor use and facilities throughout the park and called for maintenance of docks at Tobin Harbor. Indirect adverse impacts from additional boat traffic in Tobin Harbor as a result of the new docks will not be combined with any other action to create cumulative impacts. There are no past, ongoing or reasonably foreseeable future actions by the park or others that would cumulatively increase boat traffic in Tobin Harbor.

Resource Impairment:

None of the actions proposed in these alternatives would impair park resources or values.

3. **Aquatic Species of Special Concern to Isle Royale National Park:**

Affected Environment:

A. Coaster Brook Trout: Isle Royale National Park is one of only two known breeding sites for coaster brook trout in the Lake Superior area. In the Lake Superior waters off the shore of Isle Royale, the U.S. Fish and Wildlife Service in conjunction with the National Park Service has been conducting surveys to determine the population size and habitat mapping, and has been stocking with native, site-specific Isle Royale strains of coaster brook trout in an attempt to ensure the survival of this native fish (U.S. Fish and Wildlife Service- Ashland Fisheries Resource Office, 2003). Every effort will be made in park planning to help further the success of this effort.

The coaster brook trout spawning season begins in September, and dredging and dock support construction must be completed (or halted for the season) by the end of the second week in September, minimizing any negative impact to coaster brook trout spawning (Jay Glase, personal communication, 2/12/04.) Coaster brook trout often spawn in areas with an upwelling. If an upwelling is present in the Tobin docks area it is more likely to be impeded by modified binwall docks than by wood crib docks (Jay Glase, personal communication 2/12/2004).

B. Freshwater Mussels: Unionid mussel (freshwater clam) populations are declining throughout the Midwest region for a number of reasons including: changes in physical habitat and water quality; harvesting for shell and pearls; and the spread of exotic species such as zebra mussels. (Nichols, et. al., 2000). Because unionid mussels have been found at Isle Royale in Lake Superior waters similar to those in Tobin Harbor, it is important to take great care with dredging and other activities that may disturb potential mussel populations in the harbor. The introduction of invasive species is the greatest threat to native mussel populations. Introduction of these species could lead to devastation of freshwater mussels, especially the largest populations in the inland lakes, and such introduction must be avoided. (Nichols, 2000).

No Action Alternative: This alternative would have a negligible impact on coaster brook trout and a long-term minor indirect adverse impact to freshwater mussels because of invasive species. The current docks allow good littoral flow, similar to that allowed by wood crib dock construction. If greater anchoring out occurred as a result of the docks being closed this would not likely affect coaster brook trout since anchoring occurs in depths greater than that used by the coasters for spawning. The current docks do have concrete-filled metal caissons for support. As the caissons continue to rust the degraded concrete will be exposed and could provide a potential source of calcium for invasive zebra mussels. Zebra mussels are not currently established at the park, but Isle Royale is vulnerable to invasion because of boats coming from infested waters. This is an indirect adverse impact.

Alternative A: This alternative would have a short-term, minor direct adverse impact on both coaster brook trout and freshwater clams. The adverse impact is associated with the removal of the current docks and construction of new wood crib docks. Each of the action alternatives includes dredging around the outside of the four new docks in order to increase the draft. The maximum amount of dredging will begin about 4 feet from shore and end 30 feet from shore.

This is the same for all action alternatives regardless of dock length or dock style. The maximum area dredged will be about 26 feet long, three feet wide and three feet deep. Both sides of each dock could be dredged. This amounts to a maximum of about 9 cubic yards of material dredged around each dock, or a maximum total of 36 cubic yards. Dredging may be less in order to minimize nearshore impacts. Tobin Harbor is shallower and sloped differently than Rock Harbor, and in all alternatives, the depths at the Tobin Harbor docks will be different from those at the Rock Harbor marina.

The wood crib docks in Alternative A require more dredging than the modified binwall docks of the same length found in Alternatives C and D. Because the wood crib must lay flat, the lake bottom will be dredged to a uniform level. The crib is twelve feet long and eight feet wide. The depth of dredging ranges from no material removed to three feet of material removed, and averages about 18 inches. In total, the amount of dredging required to set each crib on the lake bottom is about 5.3 cubic yards. For all four docks this means 21 cubic yards of additional dredge spoils. The dredge spoil will be mostly rock with little silt and will be used to fill the wooden cribs. No excess spoil will be created. (Hal Hoenig, personal communication, 2/11/2004)

Dredging might have a negative impact on coaster brook trout spawning areas if any such areas are present near the current docks. Spawning is not known to occur in this specific area, but a survey of the habitat near the docks will look for usable substrate that might indicate a potential spawning area. The dredging nearest to shore is that around the docks and is part of each alternative. The additional dredging for the wood cribs in Alternatives A and B will begin 24 feet from shore and in deeper water. The dredging needed for the wooden cribs may be less likely to cause damage to any spawning areas because it will be in deeper water. (Jay Glase, personal communication, 2/12/2004).

Dredging has the potential to negatively impact unionid mussels. The dredging itself could impact any mussels living in the area being dredged. Additionally, siltation associated with dredging can be detrimental to filter feeders and excessive siltation could harm fish, including coaster brook trout. Mitigation measures to minimize sediment flow will be implemented such as silt fencing at the dredge perimeter to allow sediment to settle out and prevent a sediment plume associated with dredging. The lake bottom being dredged is cobble and rock with little fine material and therefore has less of a potential for siltation. This construction will be accomplished before the coaster brook trout move into the shallow spawning areas of the harbor in late September. A habitat survey will occur prior to construction and the scope or timing of the dredging may be modified to mitigate impacts. Construction will have a short-term minor adverse impact on coaster brook trout and freshwater mussels.

After construction, the docks in Alternative A will have a negligible impact on coaster brook trout and freshwater mussels. The wood crib supports in Alternatives A and B begin 24 feet from shore and end 36 feet from shore. This only impedes littoral flow for 12 feet and allows the important near-shore littoral flow to pass naturally. The docks do not contain concrete for which would provide a potential source of calcium for zebra mussels. The use of park staff and park-based equipment means less chance of invasive species introduction.

Alternative B: This alternative has the same impacts as Alternative A, short-term, minor adverse impacts to coaster brook trout and freshwater mussels.

Alternative C: This alternative would have a long-term, moderate, indirect, impact on coaster brook trout and freshwater mussels. During the construction, this alternative would have similar direct impacts associated with dredging as Alternative A. The same mitigation measures would be required to prevent a siltation plume. This alternative does require less dredging than Alternative A. The modified binwall style of support in Alternative C will conform to the lake bottom and not require much dredging. Dredging around the docks will still be required and the maximum amount of material dredged for this alternative is 36 cubic yards.

The period of direct impacts from construction would be longer under this alternative than under Alternative A. This alternative would require additional construction time due to the use of modified binwall support. An outside contractor would have to complete this project and would need more than eight weeks to set the binwall supports and complete the docks.

After construction, this alternative will have a long-term, moderate, indirect, impact on coaster brook trout and the nearshore aquatic zone. Modified binwall supports allow much less littoral flow than do wood crib docks. Modified binwall supports in this alternative also end 36 feet from shore but they start nearer to shore, are much longer and allow much less open space than do wood crib supports, thereby impeding the important near-shore littoral flow. This impact would last for the life of the binwall.

After construction this alternative would have a long-term, moderate, indirect, impact on freshwater mussels. Littoral flow is important to filter feeders, like native mussels, and this alternative impedes littoral flow much more than does Alternative A. Additionally, the use of outside contractors to build the modified binwall docks in this alternative would increase the possibility of invasive species being transported to the park. Specifically, the contractor's work barge would likely come from one of the ports in the Great Lakes, nearly all of which suffer from zebra mussel infestations (The National Atlas of the United States, 2004). While certain environmental factors might keep zebra mussels from surviving in Lake Superior waters, they could live in the bilge water of a barge and be transported to warmer waters in shallow areas of the park. The reasons why zebra mussels have not yet become established at Isle Royale are not fully understood. The introduction of invasive zebra or quagga mussels could have profound, long-term impacts on the native mussel populations in the park, including the very important populations in the inland lakes (Nichols, 2000).

The quagga mussel, a species related to the zebra mussel, is better adapted to a range of environmental conditions including cold water that lacks nutrients and deeper water depths. Such an invasive species might well devastate the entire native mussel population at Isle Royale. Park personnel, using park equipment, would construct the wood crib docks in Alternatives A and B, so that the transport of exotics on equipment and supplies can be controlled lessening the chance of invasive species introduction. This Alternative would have a long-term moderate adverse impact on coaster brook trout and freshwater mussels.

Alternative D: This alternative would have the same impacts as Alternative C, long-term, moderate, adverse, indirect impacts to coaster brook trout and freshwater mussels.

Alternative E: This alternative would also have long-term, moderate, adverse, indirect impacts to coaster brook trout and freshwater mussels. Alternative E also features modified binwall support, however because the lake bottom drops off sharply after 36 feet, the slope of the lake

bottom beyond this point will have to be evened out. This will require redistributing material from the lake bottom to create an even grade that is suitable as a foundation for the binwall support. This will not require the removal of materials but the redistribution of rocks and sediment. The minimum amount of material dredging would be 36 cubic yards and the maximum would be 100 cubic yards. The dredging and setting of the binwall supports would take place in water substantially deeper than for the other alternatives – a maximum of about 7 feet deep for all other alternatives versus a maximum of 11 feet deep or more for Alternative E. (Hal Hoenig, personal communication, 2/11/2004). Due to the increased difficulty of the construction, the docks in Alternative E would not be completed in a single season, requiring a second year of construction and related impacts. Therefore Alternative E would have long-term, minor adverse impacts to coaster brook trout and freshwater mussels as a result of construction.

After construction is complete, the docks in this alternative would have longer binwall supports further impeding littoral flow and adversely impacting coaster brook trout and freshwater mussels. The need for a second season of construction also increases the chance of invasive species introduction as a result of construction.

Cumulative Impacts: No past, ongoing or reasonably foreseeable future actions by Isle Royale National Park staff or others would, in combination with the impacts just described, result in cumulative impacts to primary national park features under any of these alternatives. This dock replacement is not part of a larger project. There are no additional construction projects of this type scheduled for Tobin Harbor. The Isle Royale GMP (1998) planned for visitor use and facilities throughout the park and called for maintenance of docks at Tobin Harbor.

Resource Impairment:

None of the actions proposed in these alternatives would impair park resources or values.

4. Water Quality in Tobin Harbor:

Affected Environment:

Aquatic habitats account for more than two-thirds of Isle Royale National Park's area, and comprise a very important range of habitats in the park. Isle Royale is a U.S. Biosphere Reserve and as such is considered an ecologically critical area. Water quality is therefore an important consideration at Isle Royale. Lake Superior is considered to be one of the cleanest large bodies of water in the United States.

The waters of Tobin Harbor are shallower and warmer than the open lake and support important population of aquatic animals. Long-term degradation of water quality in Tobin Harbor is unacceptable and any short-term reduction in quality related to construction – including siltation – needs to be mitigated using Best Management Practices.

No Action Alternative: The No Action Alternative would have a negligible impact on water quality in Tobin Harbor. The docks will be closed to use due to their deteriorating condition and will not affect the water quality in the harbor.

Alternative A: This alternative will have a short-term, minor, adverse, direct impact to water quality in Tobin Harbor. Siltation is an effect of dredging such as the dredging for this alternative. In the area to be dredged, the lake bottom being dredged is rocky and therefore has

less of a potential for excessive siltation. Additionally, mitigation measures to minimize sediment flow will be implemented such as silt fencing at the dredge perimeter to allow sediment to settle out and prevent a sediment plume associated with dredging. These mitigation measures will lessen the adverse impact to water quality in Tobin Harbor from moderate to minor.

Treated lumber is used in dock construction and maintenance at Isle Royale. Typically chemically treated lumber has twice the lifespan of untreated lumber. Chemically treated lumber has been a concern in the past, especially with the use of CCA (copper chromium arsenic) treatment. Technological advances in lumber preservation have led to the development of more benign alternatives that are more economically feasible than lumber with natural preservatives. Wood used in the construction of the Tobin Harbor docks is chemically inert and should not leach into the water. Impacts to the water quality of Tobin Harbor from the use of treated lumber in dock construction are negligible.

Alternative B: This Alternative has the same impacts as Alternative A, short-term, minor, adverse, direct impact to water quality in Tobin Harbor.

Alternative C: This Alternative has the same impacts as Alternative A, short-term, minor, adverse, direct, impact to water quality in Tobin Harbor.

Alternative D: This Alternative has the same impacts as Alternative A, short-term, minor, adverse, direct impact to water quality in Tobin Harbor.

Alternative E: This Alternative has the same impacts as Alternative A, short-term, minor adverse, direct impact to water quality in Tobin Harbor.

Resource Impairment:

None of the actions proposed in these alternatives would impair park resources or values.

Cumulative Impacts: No past, ongoing or reasonably foreseeable future actions by Isle Royale National Park staff or others would, in combination with the impacts just described, result in cumulative impacts to primary national park features under any of these alternatives. There are no other construction projects planned for Tobin Harbor that would affect water quality during the same time period as this construction project. There are no additional past, ongoing or reasonably foreseeable future actions that would combine with this project to further impact the water quality in Tobin Harbor.

5. **Public Health and Safety:**

Affected Environment: Visitors using the Tobin Harbor docks will find slanted and uneven decks and sideboards that are unsafe for visitors and can damage boats. The docks will soon become unusable preventing life lessees, who spend the summer in Tobin Harbor, and visitors to the harbor from being able to access the Rock Harbor area from Tobin Harbor. In emergencies this could be detrimental to health and safety, especially in rough weather, as boats would need to go around Scoville Point in unprotected waters to reach the Rock Harbor marina. The current docks are not ADA accessible.

No Action Alternative: The No Action Alternative would have a short-term, minor, direct, adverse impact to public health and safety because of the poor condition of the docks and a long-term, moderate, indirect, impact to public health and safety when the docks are closed to use. The docks will not be available in case of emergency. Law enforcement rangers currently use the Tobin Harbor docks and will be unable to do so when the docks are closed, this will adversely impact their ability to ensure public health and safety in Tobin Harbor. The current docks are not ADA accessible and would remain inaccessible under this alternative.

Alternative A: This alternative will have a long-term, moderate, beneficial, impact to public health and safety. The new docks will have level decking and sideboards providing for safer visitor use a direct impact. Additionally the new docks will be ADA accessible, allowing more people the opportunity to enjoy the area. Indirect beneficial impacts include: the docks will be available to park staff, including law enforcement, to help ensure visitor health and safety; in an emergency the docks will be available to life lessees and visitors to Tobin Harbor; and the new docks will also make access to the floatplane safer.

Alternative B: This alternative would have the same long-term, moderate beneficial direct and indirect impacts as Alternative A and would provide more room for mobility-impaired individuals to use equipment necessary to access the docks.

Alternative C: This alternative would have the same long-term, moderate, beneficial direct and indirect impacts as Alternative A.

Alternative D: This alternative would have the same long-term, moderate, beneficial direct and indirect impacts as Alternative B.

Alternative E: This alternative would have the same long-term, moderate, beneficial direct and indirect impacts as Alternative B.

Cumulative Impacts: No past, ongoing or reasonably foreseeable future actions by Isle Royale National Park staff or others would, in combination with the impacts just described, result in cumulative impacts to primary national park features under any of these alternatives. Only the No Action Alternative has adverse impacts to public health and safety and there are no past, ongoing, or reasonably foreseeable future actions that would create a cumulative effect with the adverse impacts of the No Action Alternative.

6. Visitor experience/Scenic views:

Affected Environment:

The docks at Tobin Harbor are used by a variety of visitors in a range of ways. Some of the uses include canoeing, kayaking, fishing, boater day use or overnight use and passengers arriving on the floatplane. Additionally, park rangers and staff use these docks to provide visitor services. Deteriorating docks at Tobin Harbor are not safe or convenient to use and can damage boats. The docks are not aesthetically pleasing and can disrupt scenic views in Tobin Harbor.

No Action Alternative: The No Action Alternative would have a long-term, moderate, direct adverse impact on visitor experience and scenic views. Visitors would no longer be able to use

the docks making access to Tobin Harbor more difficult. Accessing the floatplane would not be as safe or convenient and park personnel would be adversely affected in their efforts to provide visitor services. The site of the deteriorating, and eventually collapsing, docks would further erode scenic views.

Alternative A: This alternative would have a short-term, moderate, adverse, direct impact to visitor use and scenic views and a long-term, moderate, beneficial, direct impact to visitor use and scenic views. Short-term, adverse, direct, impacts include audio impacts from the sound of construction, visual impacts from the work and equipment, and access impacts because the docks will be closed to boat traffic.

Due to natural resource concerns, construction will need to take place during the busy part of the visitor season, which will increase negative impacts to visitors. The construction will require the work barge to be in the harbor for an extended period and the docks will be inaccessible during this time. Construction will have additional adverse short-term impacts to visitor experience in terms of visual impacts and noise of construction work.

Once the construction period is complete, visitor experience will be positively impacted in the long term under this alternative. The old decking and sideboards currently present a safety hazard and have the potential to damage boats tied to the docks. The new docks will have level decking and sideboards making the docks easier to use. The new docks will be ADA accessible allowing mobility impaired visitors to experience this quiet area adjacent to Rock Harbor. By replacing the docks the park service will avoid having to close the docks to use and visitors will be able to continue to enjoy the range of recreational activities in Tobin Harbor. Scenic views will be improved when the deteriorating docks supported by rusted caissons are replaced.

Alternative B: This alternative would have the same short-term, moderate, adverse, direct impacts and long-term, moderate, beneficial, direct impact as Alternative A.

Alternative C: This alternative would have the same short-term, moderate, adverse, direct impacts and long-term, moderate, beneficial, direct impact as Alternative A.

Alternative D: This alternative would have the same short-term, moderate, adverse, direct impacts and long-term, moderate, beneficial, direct impact as Alternative A.

Alternative E: This alternative would have the same short-term, moderate, adverse, direct impacts and long-term, moderate, beneficial, direct impact as Alternative A.

Cumulative Impacts: No past, ongoing or reasonably foreseeable future actions by Isle Royale National Park staff or others would, in combination with the impacts just described, result in cumulative impacts to primary national park features under any of these alternatives. This dock replacement is not part of a larger project. There are no additional construction projects of this type scheduled for Tobin Harbor. The Isle Royale GMP (1998) planned for visitor use and facilities throughout the park and called for maintenance of docks at Tobin Harbor. The adverse impacts of the action alternatives are all short-term and there are no additional projects scheduled for that would add to the adverse impacts during the dock construction. There are no additional actions being taken by the park that would create cumulative impacts to visitor experience and scenic views.

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